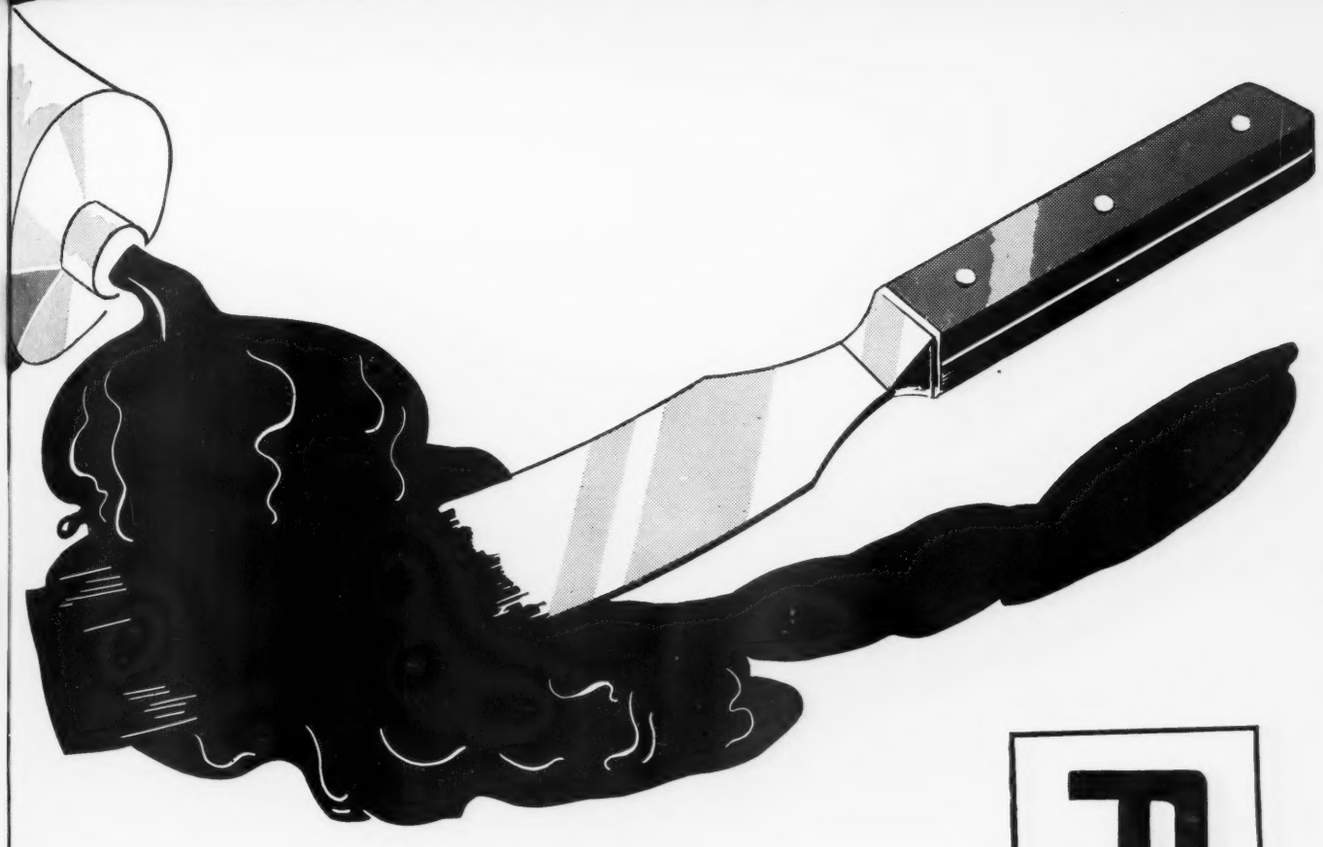
PRINTING EQUIPMENT ENGINEER

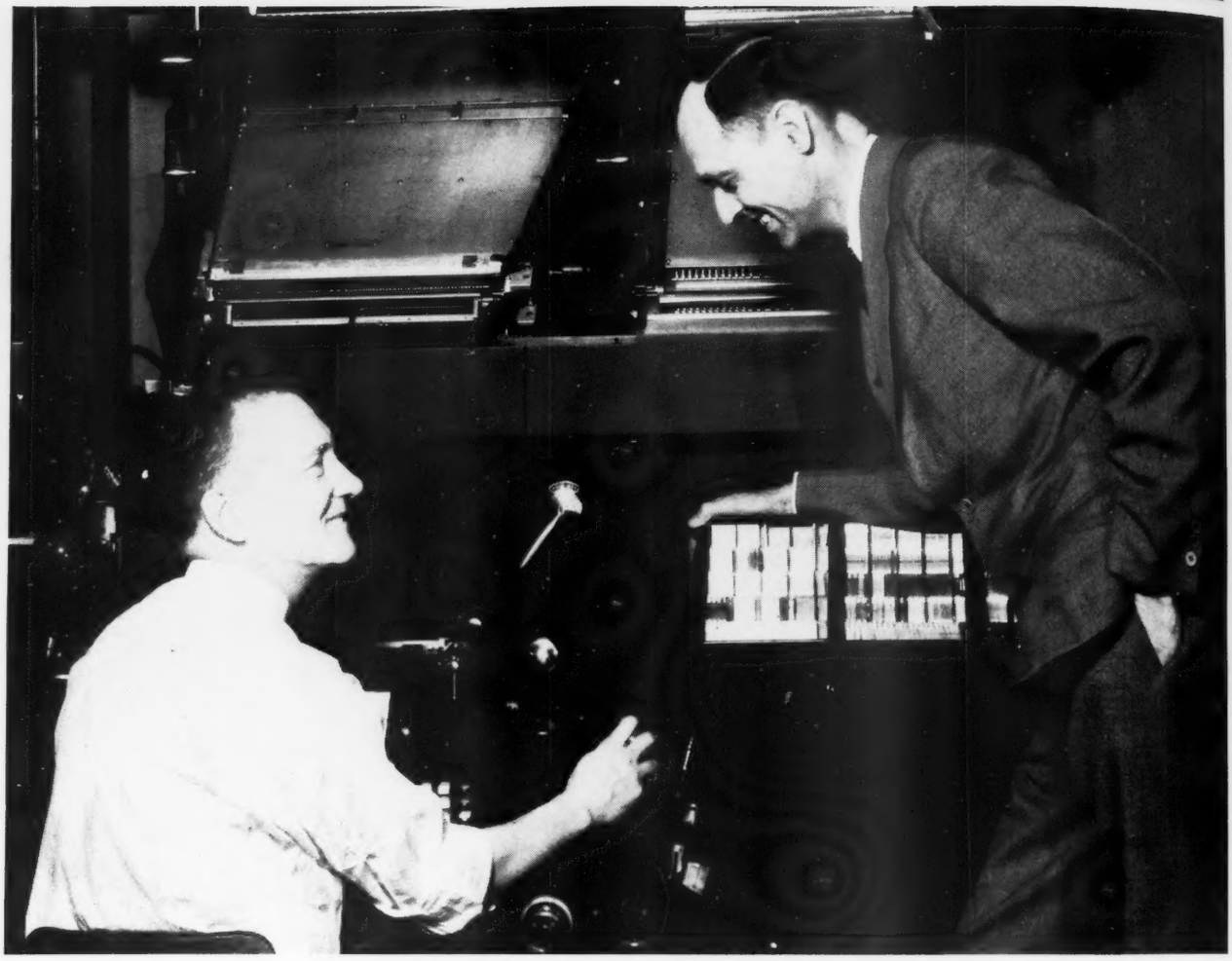


MAY 1938

A TECHNICAL PUBLICATION FOR PRODUCTION AND MECHANICAL EXECUTIVES IN THE GRAPHIC ARTS INDUSTRY

They All Like Master Models

Operators and Executives Okay New Features



OPERATOR: "Just whisk it around once . . . no effort at all with this One-Turn Shift."

EXECUTIVE: "And the time you used to spend cranking now goes into production."

OPERATOR: "Yep! It just takes one turn—and from fourth magazine to the first is a mere matter of seconds."

EXECUTIVE: "Some speed! And say, I notice you've nearly doubled your production on some of that matter you used to kick about so much."

OPERATOR: "You mean all that stuff that had to be centered? It *was* a pain in the neck when I had to count quads and shift them around by hand. But the Self-Quadder has changed all that."

EXECUTIVE: "Yes, it's marvelous the way this machine does all that centering and quadding automatically! And to think of the hours we used to waste doing that by hand!"

Linotype Erbar Bold Condensed with Unique Caps and Bookman

Mergenthaler Linotype Company

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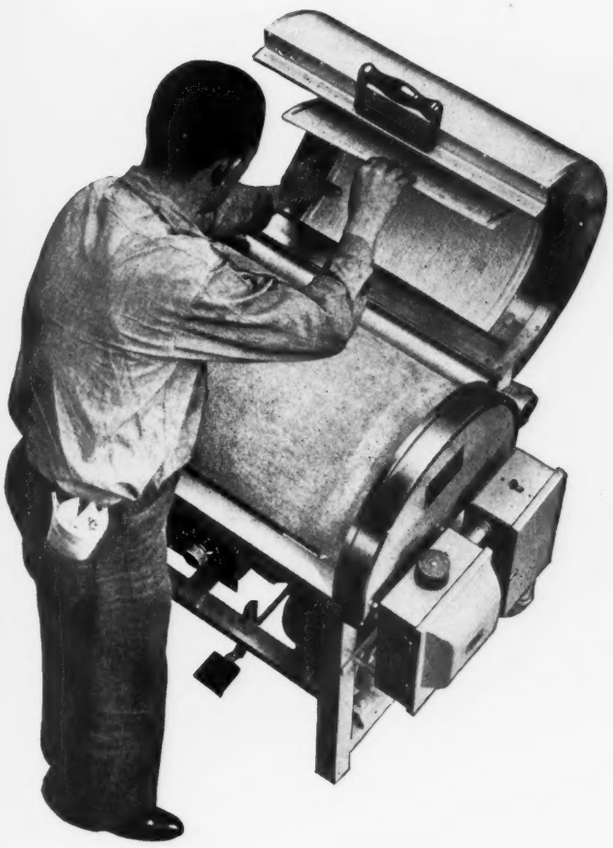

JUNIOR FORMER

- Better mats mean better plates, and naturally, better printing.
- The Stahi Junior Former makes possible all three of these most desirable results.
- Progressive smaller city daily newspapers, more than 100 of them, are now getting such results with Junior Formers.
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PORTLAND, OREGON

Manager Wines Reports

50 Papers using standard colors—Newsprint waste and conservation dominant notes.

THE annual report of Mechanical Department Manager W. E. Wines to the American Newspaper Publishers Association released on Monday, April 25, is extremely interesting and constructive in nature. After presenting details in connection with the forthcoming A.N.P.A. Mechanical Conference which will be held at the Royal York Hotel, Toronto, on June 6, 7 and 8, Manager Wines discusses three important phases of work being conducted by the department at the present time. These are Standard Colors, Newsprint Conservation and Newsprint Waste.

50 Papers Using Colors Regularly

It will be remembered that the 1937 Chicago Mechanical Conference adopted standard newsprint colors for four-color newspaper printing as a result of the recommendation presented to that Conference by the Committee on Newspaper Color Standardization. In the report, it is stated: "A survey is now in progress to determine to what extent these colors are actually being used. A definite report at this time would be premature, but it appears that some fifty newspapers are using these colors regularly, some are using them part of the time, and from very many others which have their color supplements printed by outside concerns no definite report has yet been received. When the returns are all in and the answers tabulated, a complete report will be made in a bulletin."

Newsprint Conservation

In view of the "inroads" made by the rayon industry into pulp consumption (see Henry A. Wise Wood's article, page 15, Feb., 1938, issue of *Printing* Equipment *Engineer*), Manager Wines' discussion of newsprint conservation and newsprint waste is timely and expresses clearly the benefits to be secured if publishers will encourage their production and mechanical executives to study both problems carefully.

Concerning Newsprint Conservation, Manager Wines states:

"The recent increase in the price of newsprint has focussed the attention of publishers upon means to reduce newsprint consumption. One way of accomplishing this is to reduce paper roll widths. Because of this situation, the Department's biennial survey of type page sizes and paper roll widths was started earlier than usual, and the report was issued under date of February 28.

"This report shows many reductions in paper roll dimensions and a rather startling increase in the number of papers using four-point column rules. The offices which have reduced paper roll widths are indicated in the report by a dagger adjoining the figure for roll width; 96 offices are so indicated. The consumption figures which are available show that 88 of these offices use approximately 1,000,000 tons a year and have effected a total reduction of approximately 13,000 tons, or 1.3 per cent. Other reductions or proposed reductions have come to our attention since the report was issued, and a supplementary report on these will be made in the next newsprint waste bulletin which will appear soon after May 1."

Newsprint Waste

Concrete illustrations respecting newsprint waste are given in the report—the figures are impressive. As is stated by the Manager, "the figures quoted are from offices in large cities. Obviously the publisher of a paper in a small city could not possibly effect any such total saving. Relatively, however, newsprint waste is just as important and just as costly to the publisher of a small-town newspaper as to the publisher of a metropolitan newspaper, and is equally worthy of his attention.

"This is one of those old subjects concerning which there is always more to be said. Waste of newsprint is costly to any office and, fortunately, it is one expense item which can be controlled, if the necessary vigilance is maintained. As has been pointed out frequently, waste can be kept at a minimum only by constant and unremitting attention. The waste percentage may be brought down, but it will not stay down unless someone is delegated to watch it and keep it down.

"The experience of an office using 20,000 tons or more, yearly, corroborates the foregoing statement. Over a term of years, the total waste percentage in this office was reduced to 2½ per cent. This was accomplished under the supervision of a man who was put in charge of the paper department. Believing that his services were no longer required, the management dropped his name from the payroll. Recent reports from this office show that the waste percentage has increased to 3½ per cent. This increase of 1 per cent means between 200 and 250 tons of waste annually. Even after making allowance for salvage, this amounts to approximately $10,000. The natural inference from these figures is that it would have paid this newspaper to have retained the paper man on the payroll.

The figures of another office, which reports regularly, show a waste increase of 1¼ per cent in a comparatively short time. During the same period the paper consumption has increased from 4,000 to 7,000 tons a month. One and one-quarter per cent of 7,000 tons is more than 85 tons, which, after making a liberal allowance for salvage must cost the office at least $3,000—about $100 a day. What the conditions are that have operated to cause this increase in waste percentage are not known, but the figures indicate that it would pay the management of this paper to take some steps to correct them.

"A more heartening picture is presented by the accomplishment of another large paper whose consumption is approximately 35,000 tons annually. Someone in the management of this office became convinced not long ago that waste was entirely too high and should be reduced. The result is that the total percentage has been decreased by 1½ per cent, and further decreases are confidently predicted by those in charge. Even if nothing more should be accomplished, the reduction of 1½ per cent in the total waste percentage is saving this office at least $20,000 a year."

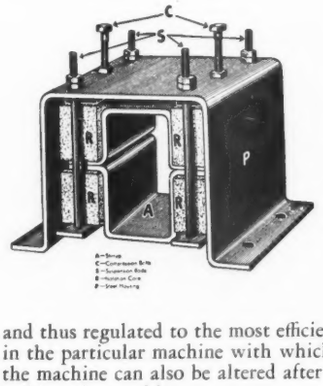
Vibration Control in Printing Plants

By Stephen E. Slocum, Ph. D.*

VIBRATION effects resulting from the operation of printing machinery are often very troublesome. Even with the most modern type of machinery, vibration is transmitted to the building, and travels through the walls and floors to every part of the structure. This often results in what the law calls a nuisance, especially if the building is occupied by other tenants, or if part of it is used for editorial and other offices.

Where large presses are concerned, especially those which require a specially constructed foundation, the proper time to make provisions for the isolation of these presses is when the foundation is constructed. Provisions can then be made for the correct isolation at small expense, and will forestall future trouble from this source.

In the case of small presses and movable machines such as linotypes, shapers, etc., vibration can be suppressed by isolating the machines. There are various types of isolator for this purpose, the mechanical features depending on the type of machine for which it is intended. One type of isolator designed especially for linotypes is shown in the accompanying diagram. This isolator is so designed that it raises the linotype less than an inch above the floor, and requires no cutting of the floor for installation. It provides the most effective form of isolation, as the load is carried on a deep core of resilient material, instead of the usual thin vibration mat. This particular form of isolator has several other important features, one of which is that the intensity of load on the core may be varied by a simple adjustment, and thus regulated to the most efficient point for controlling vibration in the particular machine with which it is used. The clearance under the machine can also be altered after the isolator is installed, without jacking the machine.



Coyne Vibration Control Isolator for small printing presses, linotype and intertype machines and other small units in the mechanical departments.

The same principle of using a deep resilient core, provided with means for altering the intensity of load on the core, is available in other forms of isolator adapted to all types of machines.

*Consulting Engineer, Coyne Vibration Control, Inc. Member American Society Civil Engineers; Honorary Life Member, American Society Naval Engineers.

Sunday Times
CHICAGO'S PICTURE NEWSPAPER
5c
Max-Joe bout up to mayor
Boy, ring up two
Modify office bill; 'Plot' on F. D. told
Loyalists oust leader as key city crumbles
Slain girl's parents aid boy killer
Fear seals lips of slain union man's brother
Woman, 63, slain; 7th in 'chain'
'Captain mad,' crew begs aid
EXTRA
Blast, fire hit factory
Movies offer battleship

A distinctive sign of the Times

The up-and-coming Chicago Times has adopted a strikingly new and different typographic style for displaying the news. Throughout the paper the main heads are Ludlow-set in the Karnak family of typefaces, including Karnak Black, Karnak Black Italic, Karnak Black Condensed and Karnak Medium. The Karnak family, like all Ludlow typefaces, is well-designed, modern and exceedingly legible.

The Times requirements are for bold and striking news display, but whether a newspaper wants typefaces heavy and compelling, or light and graceful, formal and dignified, or sprightly and informal, it will find just the typefaces desired in the wide selection offered in Ludlow matrices.

A new and fresh note is in the air. Many newspapers have modernized their dress. It would profit many others to brighten and modernize the appearance of their news and advertising columns. Such modernizing can be effected in no better way than by adding fonts of the newer well-designed Ludlow typefaces to the resources of your composing room.

More and more, progressive publishers are realizing the advantages of Ludlow composition for advertising display and for the larger news heads. All-slug composition produced the economical Ludlow way proves truly flexible.

With the Ludlow, your composing room can have variety in weight, size and width, in roman, italic or script typefaces —any minute of the day and in any quantity. Information regarding the many advantages that Ludlow composition offers for effective display advertising and eye-arresting heads awaits your request, without the slightest obligation.

LUDLOW TYPOGRAPH COMPANY

Set in members of the Ludlow Karnak family

2032 Clybourn Avenue + + + Chicago, Illinois

Bay City Times new 4-unit double width press equipped with Goodyear Printers Rollers.

THE WEATHER
SNOW, WARMER

THE BAY CITY TIMES

HOME EDITION
26 Pages

INSURES AGAINST ROLLER TROUBLES

LIKE so many other well-known daily newspapers that take pride in good printing, the Bay City (Michigan) Times specified Goodyear Printers Rollers on its new 4-unit press recently installed. Goodyear Rollers are not affected by weather or atmospheric changes and for that reason require a minimum of adjustments. They take a fine "set," spread the ink evenly and economically—*printing both type and cuts sharper and cleaner!* Goodyear Rollers require no washing and can be used with all color inks. Use of highest quality materials and precision grinding are other features contributing to long trouble-free life. If you do not know about the *new* Goodyear Printers Rollers — it will pay you to write for complete information to Goodyear, Akron, Ohio, or Los Angeles, California.

Branches in all principal cities

MORE NEWSPAPERS ARE PRINTED ON GOODYEAR UNDERBLANKETS THAN ON ANY OTHER KIND

THE GREATEST NAME IN RUBBER

GOODYEAR

Printing Equipment Engineer

Trade-Mark Registered U. S. Pat. Office

May, 1938

Volume 56 No. 2

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A Technical Publication for the Mechanical Executive Responsible for Printing Production, Equipment and Supplies in the Commercial, Magazine, Private Plant and Daily Newspaper Field.

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Associate Editor: Adam Henri Reiser

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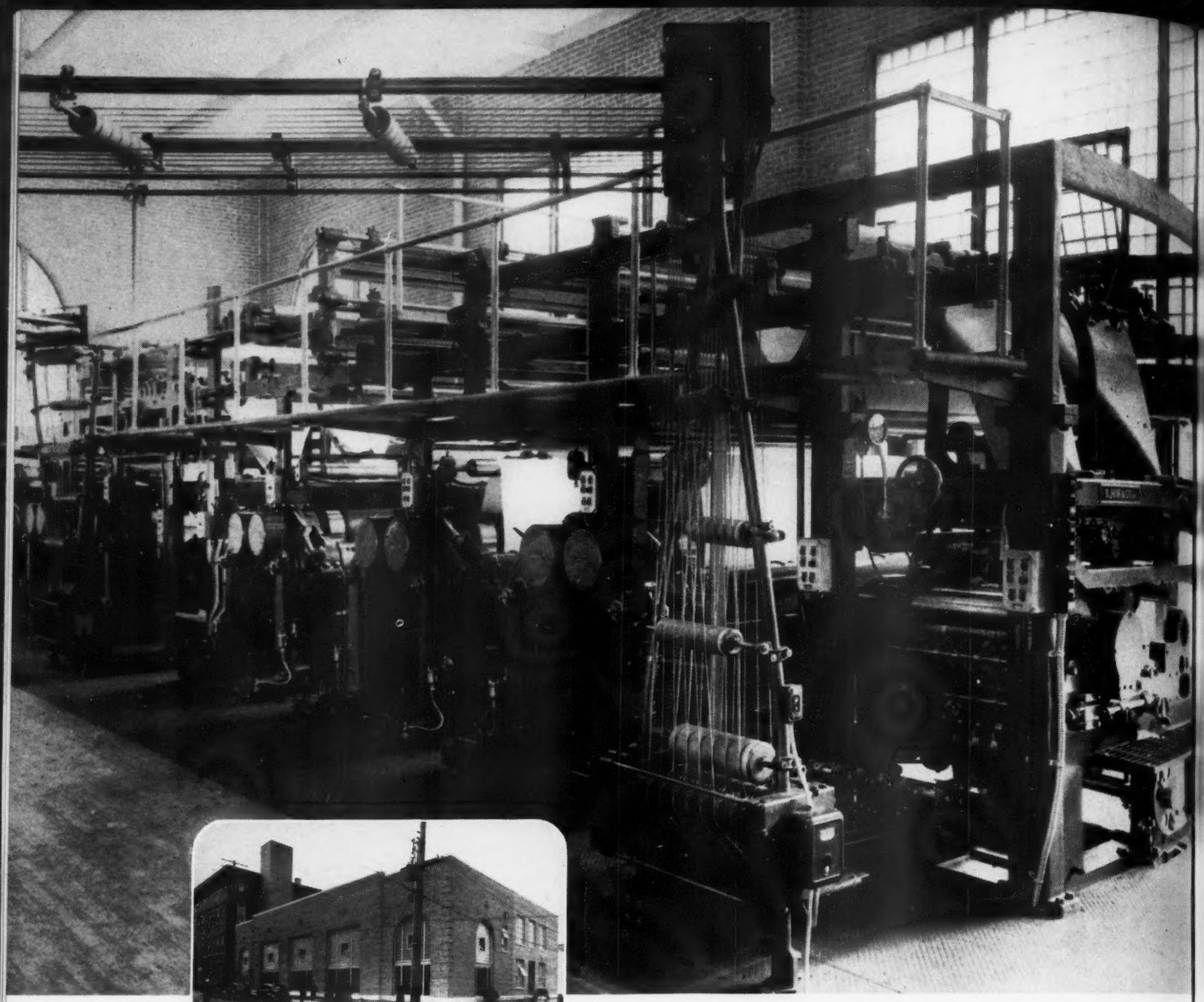

This new and modern addition to their present plant was recently completed by the Allentown Morning Call and Chronicle & News.

Goodrich Printers' Rollers were specified 100% for this new Hoe Arch Type Double-Sextuple press of the Allentown Morning Call and Chronicle & News.

Allentown Call and Chronicle & News Assures Better Printing with Goodrich Rollers 100%

CLEARER printing that helps sell papers and advertising, faster production that gets editions on the street quickly, less trouble for pressmen—all these advantages will be enjoyed by the Allentown (Pa.) Morning Call and Chronicle & News because they specified Goodrich Printers' Rollers 100% for their new plant addition.

These papers chose Goodrich for their new presses because of long, low-cost, trouble-free experience with Goodrich Rollers in their original plant.

Goodrich Rollers give you clear, clean impressions because their smooth, uniform surface—unaffected by temperature changes, keeps clean, shedding paper dust, ink grit, etc., thus eliminating washing. They last longer because of their special compound, and occasional regrinding maintains their highly polished surface as good as new. Time and money are saved by Goodrich Rollers because they eliminate emergency shut-downs for wash-up and resetting.

Hundreds of progressive newspapers use Goodrich Rollers to improve appearance, cut costs. Visit a few nearby plants where these better rollers are in operation. See the quality of the printing they produce; learn of their economies direct from the pressmen. A list of these users in your territory can be obtained by writing Niles & Nelson, Inc., New York.

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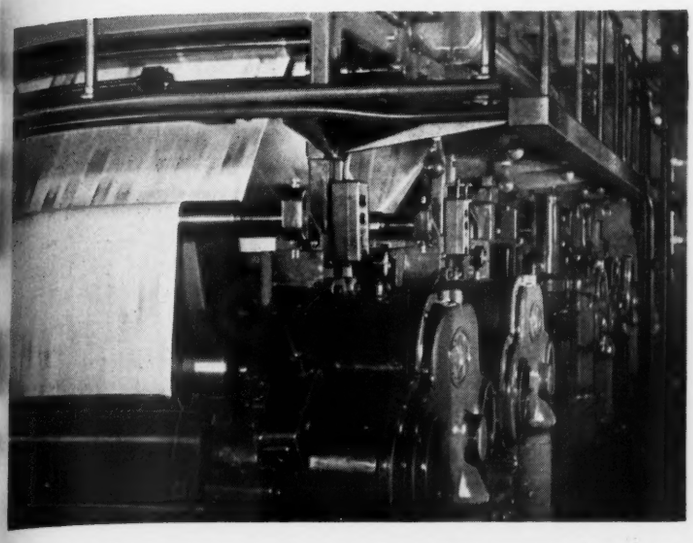
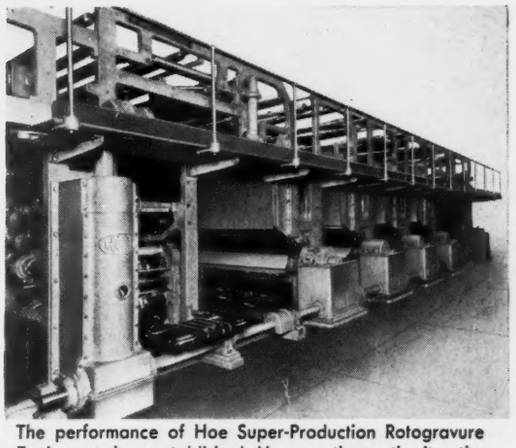
Goodrich *Printers'* Rollers

5 OPPORTUNITIES to cut the cost of production to improve printing quality

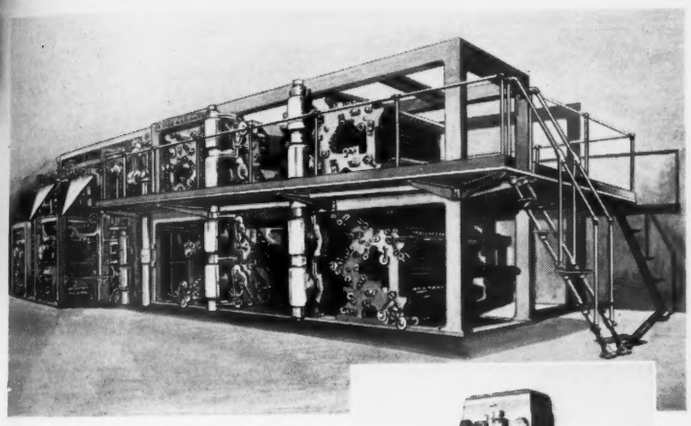
FOR every phase of modern newspaper production Hoe has equipment of ultra-modern design that drives costs down to new "lows" and raises printing quality to new "highs." All Hoe Equipment shares in the traditional engineering skill of the world's largest newspaper equipment plant. We would like to tell you why so many publishers have selected Hoe Equipment after exhaustive studies of the available market. Write the nearest Hoe office for complete information.



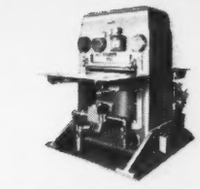
Scores of installations of Hoe arched-type Super-Production Presses are hanging up new records of increased production. Speed and stamina for today's pressroom needs are built into these Hoe Presses . . the contribution of Hoe's pre-eminent engineering skill and manufacturing facilities.

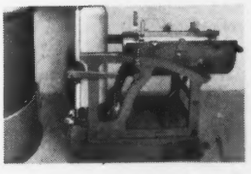


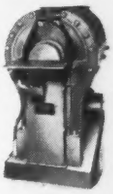
The performance of Hoe Super-Production Rotogravure Equipment has established Hoe as the authority, the logical headquarters for high-speed monotone or multi-color rotogravure equipment.



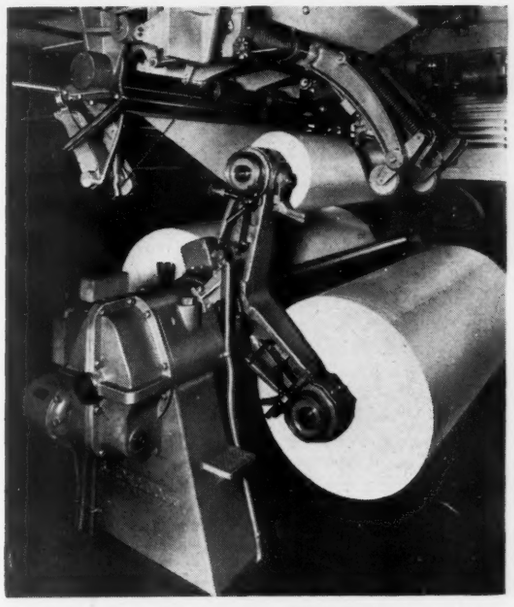
An artist's version of the world's fastest, most modern multi-color newspaper press, produced for The Milwaukee Journal by Hoe. The Hoe line of color equipment includes everything from the world's largest, a 26-Cylinder Hoe Multi-color Press in the plant of The Cleveland Plain Dealer, down to a simple auxiliary fountain.







Here's the last word in modern precision plate-making machinery. The Hoe line, including equipment for every plate-making operation, offers an excellent opportunity to improve presswork quality.



Fully-automatic electrically-controlled tensions, modern 3-arm reels and a simplified full-speed paster mechanism, all designed and perfected by Hoe, handle roll changes at full press speeds. They are establishing unusual records for uninterrupted press operation.

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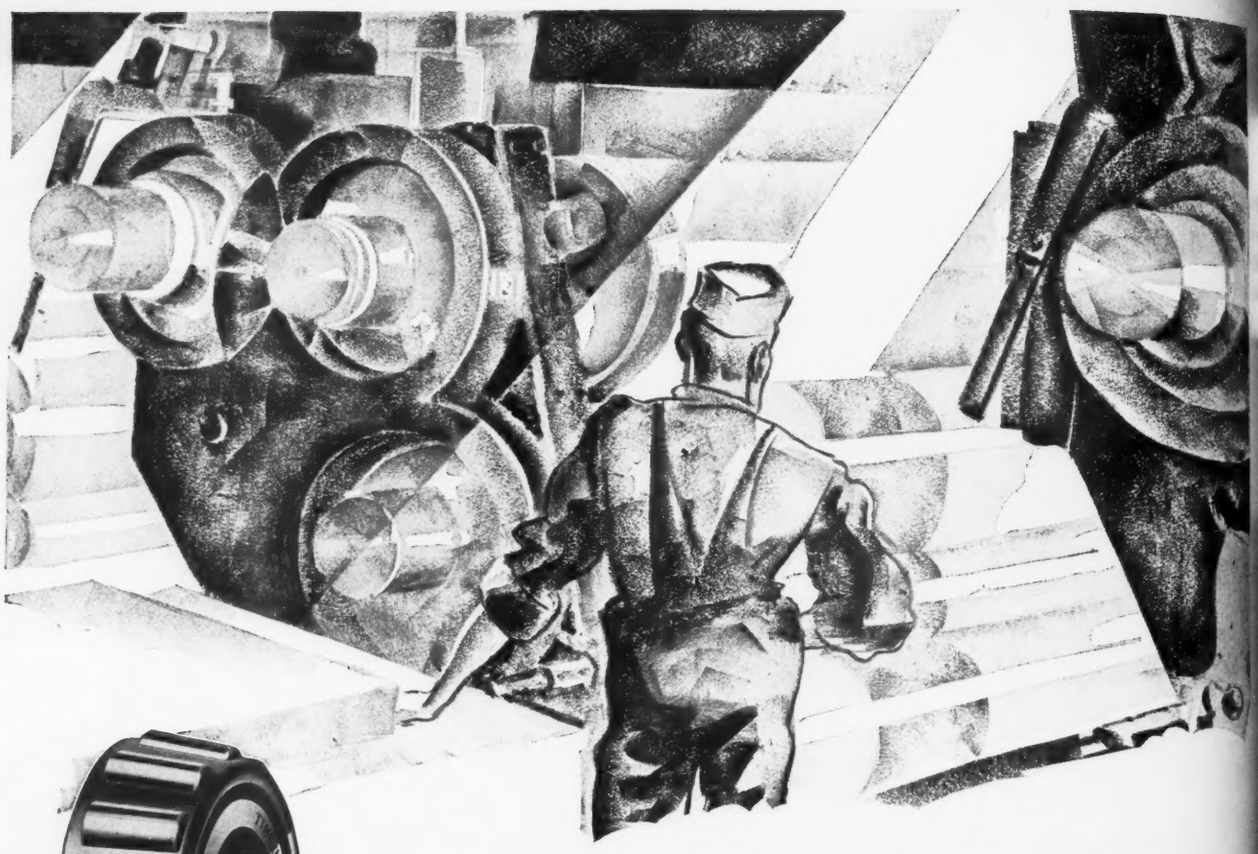

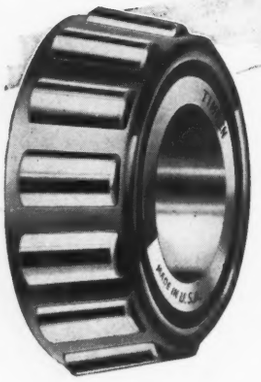

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TIMKEN Roller Bearings do more than merely "anti-frictionize" when they are applied to printing presses. They contribute many other desirable features all of which add up to an assurance of dependable, extremely accurate, economical performance.

The performance of TIMKEN Bearings is rooted in the steel from which they are made (TIMKEN Alloy Electric Furnace Steel); in their ability to carry loads coming from all directions; hold shafts in constant alignment; and in their correct application.

With all the advantages afforded by TIMKEN Bearings it will pay you to modify your press designs to include TIMKEN Bearings at all points of friction and hard service.

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"Rebel" Streamliners of the Gulf, Mobile & Northern R. R. are Timken-equipped.

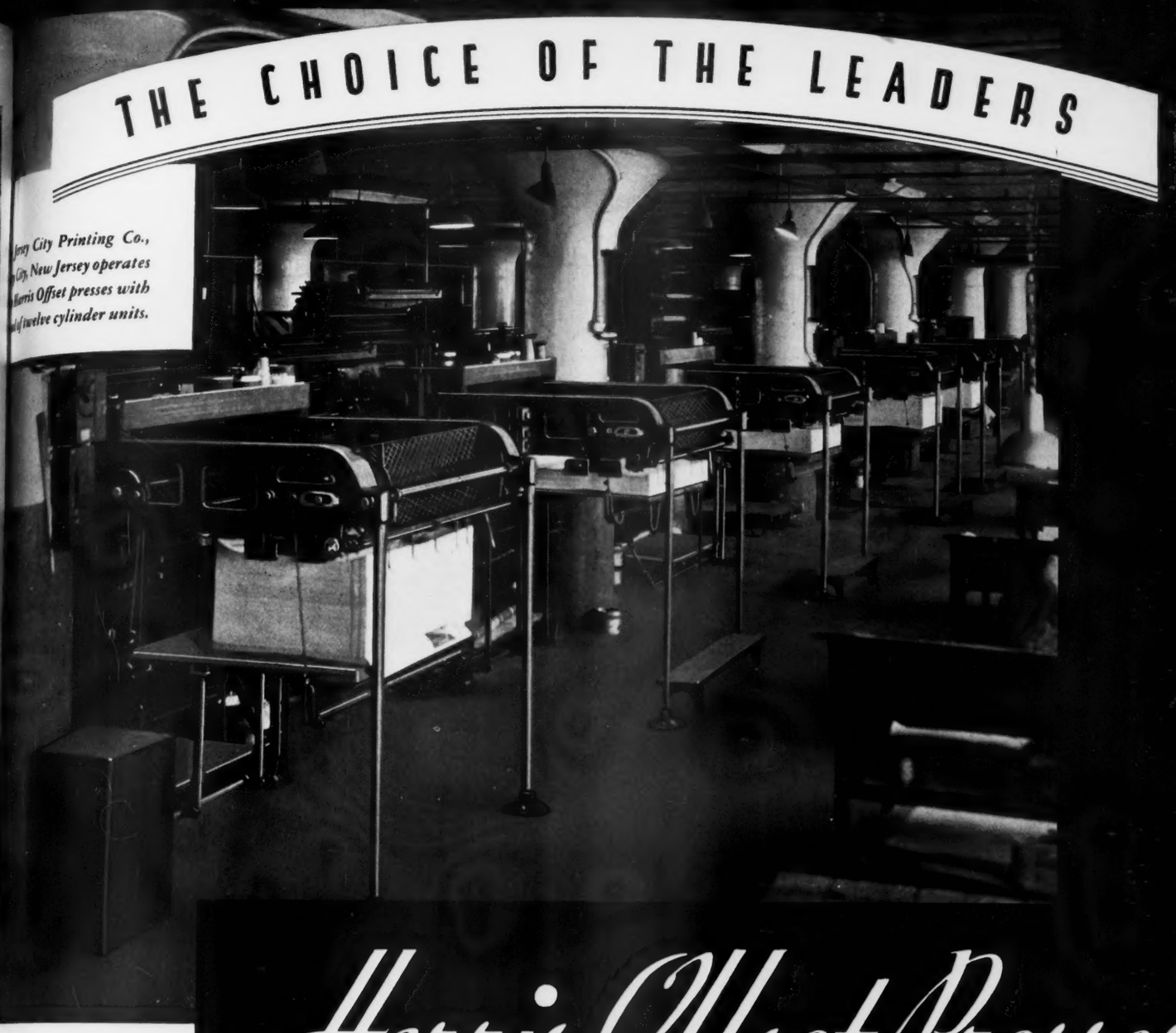
GLIDE—as you ride a Timken-equipped train

Manufacturers of TIMKEN Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; TIMKEN Alloy Steels and Carbon and Alloy Seamless Tubing; TIMKEN Rock Bits; and TIMKEN Fuel Injection Equipment.

TIMKEN

TAPERED ROLLER BEARINGS

THE CHOICE OF THE LEADERS



Jersey City Printing Co., Jersey City, New Jersey operates eight Harris Offset presses with a total of twelve cylinder units.

Harris Offset Presses

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HARRIS SET PRESSES

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22", 21"x28", 22"x34" ingle color.

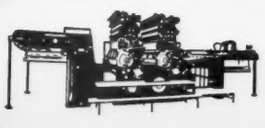
lor Group:

x40", 35" x 45" in e color; 41"x54", 42"x 46½"x68½" in one, three and four colors.

• Tested by many years of efficient performance, Harris Offset preferment is centered in the sound application of the equipment to the profit needs of the pressroom. Maintaining high quality at modern high speed is increasingly responsible for Harris standardization in an ever growing number of plants throughout the Graphic Arts. Back of Harris-Seybold-Potter preference is a half century of press building experience in which precision manufacture provides maximum support to the skill of pressroom craftsmanship.

HARRIS • SEYBOLD • POTTER COMPANY

PIONEER BUILDERS OF



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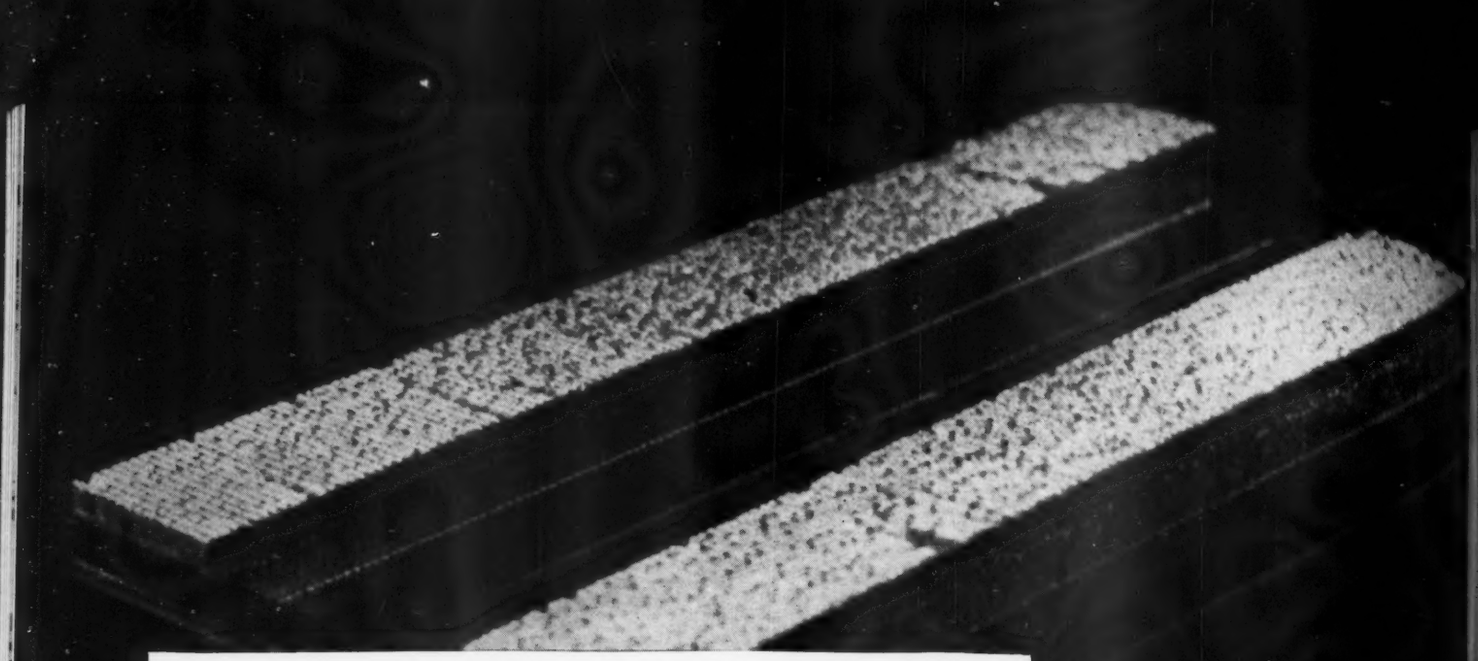

Nearly two galleys of **corrections** *saved . . . every day in a twenty-machine composing room*

Think of the lost time represented by two galleys of corrections! Think how much productive work could be done in that length of time!

Those two galleys are the savings effected —every day—in a newspaper plant of moderate size which uses Matrix Contrast Service. And these are not theoretical figures; they are actual results of painstaking surveys made before and after the Matrix Contrast Service was installed.

Matrix Contrast Service will save one-third of all your corrections. It will give you cleaner railroaded news. And the Black and White Contrast will eliminate glare, reduce eye fatigue, and conserve the energy of your operators for more productive work.

So here you have a method of speeding production without investing in new equipment. It is worth your investigation. A booklet describing Matrix Contrast Service and figures on the savings effected will be sent to you on request.

MATRIX CONTRAST CORPORATION

Sole Licensees of the Percy L. Hill Matrix Contrast Patents Nos. 1,466,437 and 1,796,023

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Black & White MATRIX CONTRAST SERVICE

Fortune

Magazine's production manager tells about use of the three major printing processes, letterpress, offset and gravure—Discusses production problems

By KENT RHODES*

COLOR—lots of it—executed by the three major printing processes all combined in every issue of *Fortune* magazine! To the production executive, the opportunity to combine all three different printing processes in the manufacture of a single publication offers an intriguing speculation. The thought of printing multi-color gravure and letterpress type on the same sheet is entrancing. Add to this multi-color offset and multi-color letterpress process printing, good paper, and an unusually large page size with ample margins. The combination is one that not many printing plant production executives are permitted to supervise. But this is just one side of the story—it doesn't include the production headaches.

The production headaches, so to speak, exist in the employment, in combination, of three printing processes. Each of the three processes has its own peculiar technique and thus its own and differing production problems. Taken separately, these problems are not difficult; combining letterpress, offset and gravure, however, in color and in combination with each other is something else again. Higher standards of printing and binding and a greater variety of make-up are required in *Fortune* than in most magazines. To obtain the desired quality of printing it has thus far been necessary to print comparatively small sheets at slow speeds. Because of this, and because of the extensive use of color, some twenty-seven presses are needed to produce an issue. Every one of the 1,500,000 flat press sheets is hand-inspected, and about one out of every thirty sheets is rejected as sub-standard. The smooth coordination of the manufacturing processes can be assured only by close cooperation of the editorial, business and production departments.

Some of the production problems incident to the manufacture of *Fortune* offer no difficulties of an especial or peculiar nature, being similar to the problems encountered in the production of most magazines, irrespective of size, design and quality. And *Fortune's* printers have not found it necessary, for example, to employ any specially designed printing or binding equipment. Except for gravure, the equipment of many of the larger printers is adequate for *Fortune's* requirements. About 75% of the magazine is printed by letterpress on coated paper and requires much the same treatment as any work of similar quality. The production schedules, though varying of necessity from the more rigorous and speeded ones of weeklies such as *Time* and *Life*, nevertheless, are not without deadlines. It might also be noted that *Fortune's* longer and apparently unrushed schedule entails, paradoxically, a greater proportion of late-arriving material. Thus, *Fortune* not only must contend with the last-minute rush to accommodate late material, but also is saddled with the added difficulties of an unusually wide range of closing dates.

Fortune's Production Schedule —20 Closing Dates

A number of peculiar problems enter into *Fortune's* production, some of which are a consequence of its unwieldy closing schedule: About seven weeks before publication date the first color gravure forms close and are on press a week later. Most of the text closes about three weeks in advance of publication date. But some last-minute "throw-ins" have closed barely six hours before the first copies are mailed. In all, some twenty separate closing dates have to be met before each month's issue can be "put to bed." Several factors necessitate this complexity of closing dates, chief among which is the variety of printing processes employed.

Composition and Electrotyping

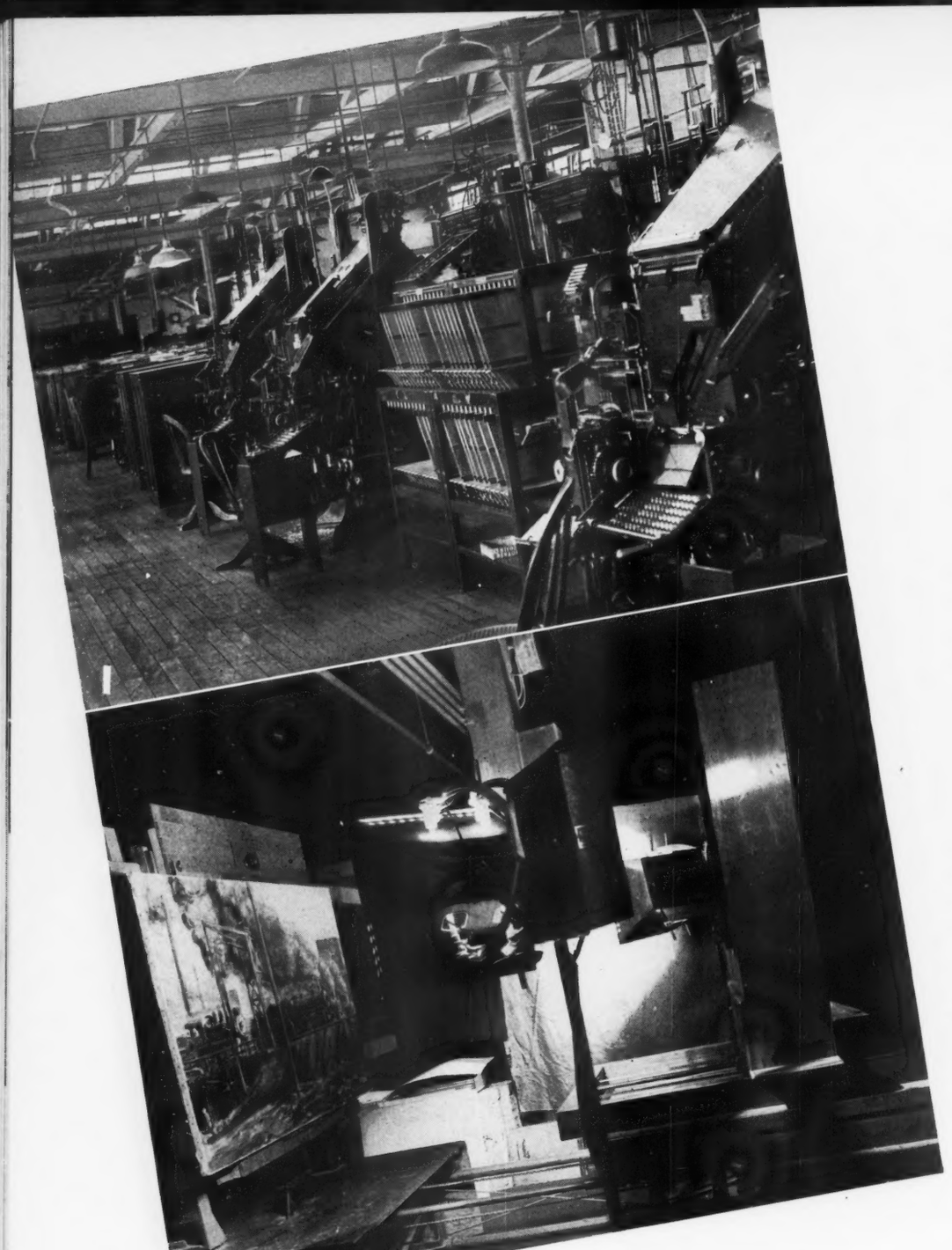
With some few exceptions, *Fortune's* editorial textual material is Linotype composi-

*Production Manager, *Fortune* Magazine, New York, N. Y.

PRESSES USED ON TYPICAL ISSUE OF *FORTUNE*

	Maximum Sheet Size	*Maximum Printing Face*	*Forms*
GRAVURE	COLOR		
(1) Palatia* (Albert & Cie)	36½ x 50	34 x 49	A, B, C, D,
	BLACK AND WHITE		
(2) Palatia (Albert & Cie)	36½ x 50	34 x 49	B, C, D
(3) Olympia (Vomag)	33⅞ x 48 12/16	32 11/16 x 48 9/16	E, F
(4) Olympia (Vomag)	33⅞ x 48 12/16	32 11/16 x 48 9/16	G
OFFSET	OFFSET COLOR		
(5) Harris—2-Color	40½ x 54	39¾ x 53¼	H, Cov. 2 & 3
(6) Harris—2-Color	40½ x 54	39¾ x 53¼	H, Cov. 2 & 3
(7) Harris—2-Color	40½ x 54	39¾ x 53¼	Cover 4
(8) Harris—2-Color	40½ x 54	39¾ x 53¼	Cover 4
	BLACK AND WHITE		
(9) Harris—1-Color	40½ x 54	39¾ x 53¼	H, I
LETTERPRESS	COLOR		
(10) Miehle—2-Color Flat Bed (No. 3)	31⅝ x 46	31½ x 45½	Cov. I, J, M
(11) Miehle—2-Color Flat Bed (No. 3)	31⅝ x 46	31½ x 45½	Cov. I, J
(12) Harris—2-Color Rotary	43¼ x 58	43¼ x 58	K
(13) Harris—2-Color Rotary	43¼ x 58	43¼ x 58	K
(14) Miehle—2-Color Flat Bed (No. 6-0)	46 x 70	45½ x 69	L
(15) Miehle—2-Color Flat Bed (No. 6-0)	46 x 70	45½ x 69	L
	BLACK AND WHITE		
(16) Kelly Single Flat Bed	24 x 35	23 x 34	Score Cover
(17) Miehle Single Flat Bed (No. 2)	33 x 49⅞	31½ x 48	E, F
(18) Miehle Single Flat Bed (No. 2)	33 x 49⅞	31½ x 48	G
(19) Miehle Single Flat Bed (No. 2-0)	41 x 56	40 x 55½	A
(20) Miehle Single Flat Bed (No. 2-0)	41 x 56	40 x 55½	B
(21) Miehle Single Flat Bed (No. 5-0)	45½ x 65	44¼ x 64½	Q
(22) Miehle Single Flat Bed (No. 5-0)	45½ x 65	44¼ x 64½	J
(23) Miehle Single Flat Bed (No. 5-0)	45½ x 65	44¼ x 64½	C
(24) Miehle Single Flat Bed (No. 5-0)	45½ x 65	44¼ x 64½	D
(25) U.P.M. Kidder Rotary	46 x 66	45¼ x 65	P
(26) U.P.M. Kidder Rotary	49 x 74	48 x 73½	N
(27) U.P.M. Kidder Rotary	49 x 74	48 x 73½	O

*3 Single units hooked up in tandem.



tion. Some twelve matrix fonts, Baskerville face, ranging in size from 8 point to 14 point, are available for use for composition requirements.

All of the main editorial pages are set according to page layouts which are exact duplicates of layouts previously sent to the gravure department. Most of the advertisements are supplied in complete plate form, but hand and machine composition is available whenever necessary. Wherever possible, letterpress full-page advertisements are lead-molded. Text pages are wax-molded or tenaplated. Flat or curved nickel-faced press plates are employed for all letterpress printing.

Three Printing Processes Used

As has been stated above, three different kinds of printing—gravure, offset-lithography and letterpress—are used throughout the magazine.

Use of Gravure

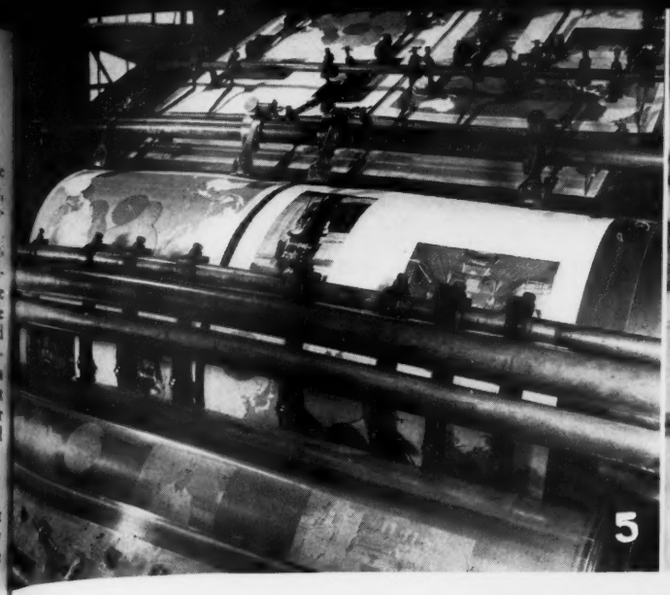
Gravure is thought by *Fortune* to be best suited to the reproduction of most of its editorial illustrations on its 75 pound, wild-wove watermarked antique stock; whereas the clean, sharp appearance of letterpress is preferred for the type and for the black borders framing the gravure illustrations. Therefore, each of the fifty-odd gravure pages in the average editorial section must be sent through two separate presses—gravure for the illustrations, letterpress for the type and the 4-point rules about the illustrations. The registering of these rules about the illustrations has at times proved troublesome because of the fact that the illustrations themselves may have been printed three weeks in advance and, in the interval the moisture content of the paper may have changed considerably. Most of the monotone gravure is now being

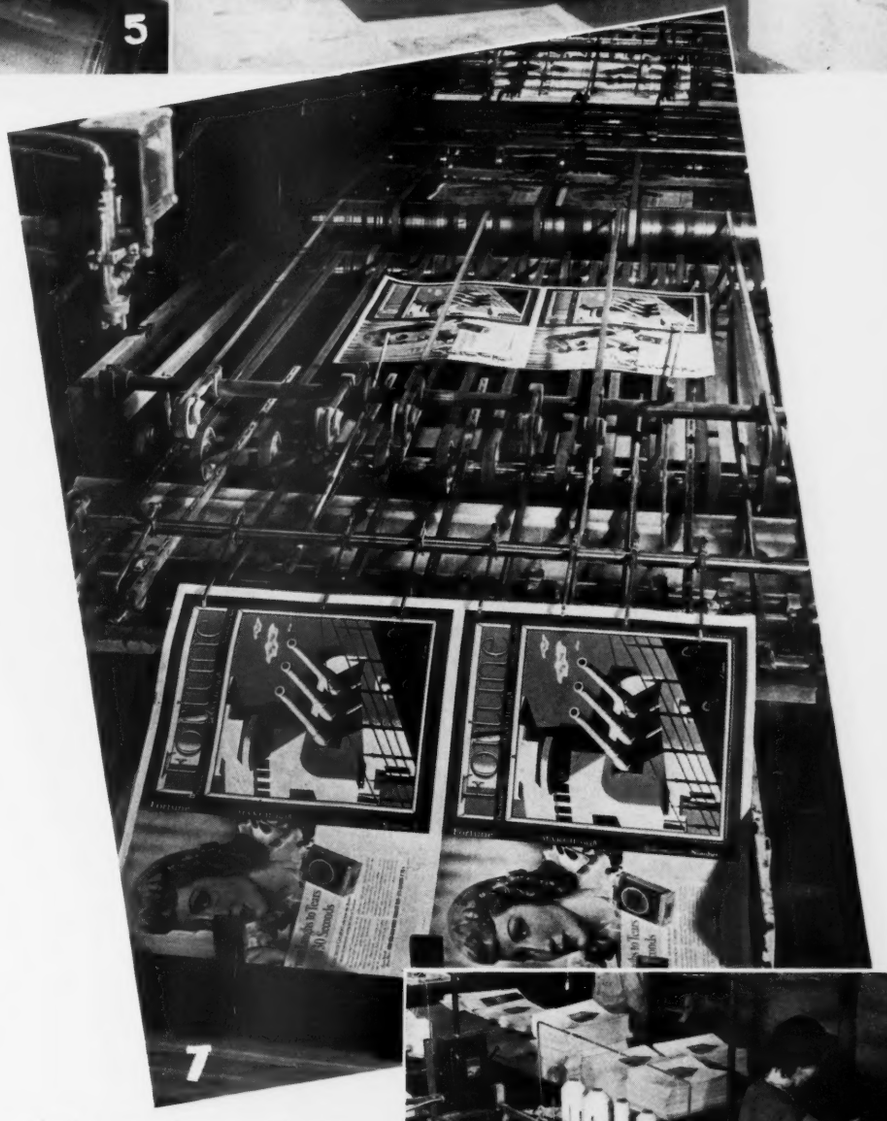
1—*Some of the Linotype equipment used in the editorial composition of* Fortune *magazine, in composing room of the Jersey City Printing Company. Baskerville is the type face. Some twelve matrix fonts ranging in size from 8 pt. to 14 pt. are sufficient to meet editorial requirements. Most of* Fortune's *advertisements are supplied in plate form but when necessary, they are set both hand and machine-set.*

2—*Photographing original oil painting which was reproduced in three-color gravure in* Fortune *for April.*

3—*Retouching the four-color gravure negatives of a color portrait of Alfred P. Sloane which appeared in the April* Fortune. *Color guide back of the artist.*

4—*Etching a monotone gravure cylinder for* Fortune *magazine in plant of Jersey City Printing Company. Armored with rubber gloves to protect the hands, the etcher pours acid from the stone pitcher on the revolving surface of the copper cylinder and skilfully swabs its surface with cotton.*





5—*Plate cylinder, impression cylinder and feed board of one of the Palatia gravure presses in plant of Jersey City Printing Company. The blue impression of the three-color Navy form (March, 1938,* Fortune*) is being printed. Duplicate presses have already printed the yellow and red impressions.*

6—*Offset pressroom in plant of Jersey City Printing Company. Here are shown delivery ends of three of the Harris 38 in. by 50 in. two-color offset presses. Piles of sheets at extreme left are ready for hand inspection.*

7—*Delivery end of a Miehle letterpress two-color flat-bed printing press in plant of Jersey City Printing Company, printers to* Fortune *magazine. This is a Model 3 press, takes a maximum sheet size 31⅝ in. by 46 in. The last two colors on the March, 1938, front cover have just been printed. The first two colors had been printed twelve hours previously by a press exactly similar to this one. The back cover (Lucky Strike Advertisement) has already been printed by four-color offset on Harris presses. Since four special colors are frequently printed by letterpress on the front cover it cannot be run with the advertising covers and, therefore, can be printed by either letterpress or offset, according to the needs of the copy.*

8—*Smyth sewing machines in operation on the March, 1938, issue of* Fortune *magazine in plant of the Jersey City Printing Company. The March* Fortune *consisted of seven signatures, averaging 28 pages per signature. Fifteen No. 4 and one No. 12 Smyth sewing machines are used on every issue.*

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done by two comparatively new "Olympia" presses, German-built in 1935 and 1937, whose net hourly production roughly is two thousand 29½ in. by 46 in. sheets. The color gravure work is run at about one-half of this speed on three single German-built "Palatia" presses hooked up in tandem (which have just printed their hundredth issue of *Fortune*). Most color forms are printed in three process colors, but if black is needed, it is later added by a fourth, single "Palatia." Color register continues to be a major problem because the pressure required to print on this antique paper may occasion a stretch of as much as an eighth of an inch. However, since 1934, register trouble has been perceptibly decreased by feeding two four-page sheets (each 29½ in. by 23 in.) instead of one eight-page sheet (29½ in. by 46 in).

Use of Offset-Lith

Offset lithography is substituted for gravure and letterpress in the editorial section for the reproduction of maps, charts, posters and other copy to which it is particularly suited. Quite often the monotone illustrations, borders, and type of four or eight pages are printed by one impression of offset-lithography on a paper whose qualities so closely match those of the gravure stock that few people can notice the difference. Similarly, some *Fortune* advertisers buy reproduction on antique paper leaving the choice of offset or gravure to the publisher. The average issue includes eight pages of monotone or color advertisements on antique paper in addition to the three advertising covers. The latter are printed in four-color offset on a 115 pound, wild-wove antique sheet. Four Harris 38 in. by 50 in. two-color offset presses and a Harris 38 in. by 50 in. one-color press generally meet the requirements of an issue.

Use of Letterpress

Letterpress is used on all the antique and coated pages, with the single exception of the offset-printed pages. Equipment for letterpress ranges in size from a 23 in. by 34 in.

(*Continued on Page 26*)

Candid Camera

Approaches to Printing Executives

1—John W. Knox, Composing Room Superintendent, The Caxton Company, Cleveland, recently completed two terms as president of the Cleveland Club of Printing House Craftsmen. Under his administration the club tripled its membership.

2—William T. Henderson, Chief Composing Room Machinist, Washington (D.C.) Evening *Star*, likes the hum of producing composing machinery—would rather supervise controlled maintenance work than be caught with a breaktown during edition times.

3—Earl D. Rader, Patent Attorney, New York, and writer for printing trades magazines, looks critically at a recent *Printing* Equipment *Engineer* cover. By preference he dotes on laying out a bindery (the bigger the better) for straight-line production operation.

4—Floyd Campbell, Stereotype Superintendent of the Columbus (O.) *Dispatch*, constantly seeks new ways and means for improving the stereotyping art besides supervising plate-making operations at the *Dispatch*. One idea of his contributes greatly in keeping his department clean—he applies a cement filet about the edges of all machine bases, thus making it easy for the porter to sweep up metal saw dust and chips.

5—L. C. (Cliff) Penry, formerly Atlanta District Manager, Ludlow Typograph Co., but now General Superintendent of the Greensboro (N.C.) *News*, and Douglas C. McMurtrie, Director of Typography, Ludlow Typograph Co., have a combined weight in excess of 500 lbs. Each declines to say which one tips the balance—both admit they're heavyweights.

List of Exhibitors

Following is corrected list (at time of going to press) of the exhibitors and booth numbers for the A.N.P.A. Mechanical Conference to be held in Toronto, Royal York Hotel, on June 6, 7 and 8.

It is repeated here there is no duty on exhibit material entering Canada or returning to the United States. However, there is a duty on souvenirs, samples and advertisements, but if arrangements are made in advance, the Toronto Convention and Tourist Association will pay the duty.

To make certain that all exhibits will clear without complications communicate with the Toronto Convention and Tourist Association, Hotel Waverly, Toronto. The stipulations are few and simple and will be explained clearly by the Association upon request.

Firm	*Booth Nos.*
Booth, E. A., Rubber Co.	6
Booth, W. E., Co., Ltd.	20
Canadian Linotype, Ltd.	7 and 8
Certified Dry Mat Corporation	49
Chemco Photoproducts Co.	18 and 19
Croke, Allan B., Company	17
Cushman Electric Co.	50
Editor & Publisher	9
Electro Hydraulic Equipment Co.	59
Eastman Kodak Co.	23-26
Federated Metals Corporation	12
Frazier Processes, Inc.	13
Gaebel, Arthur H.	3 and 4
Hamilton Manufacturing Co.	29-30
Hammond Machinery Builders	14, 15, 16
Imperial Type Metal Co.	43
Lake Erie Engineering Corp.	46
Linograph Corp.	44 and 45
Linotype Parts Co.	2
Ludlow Typograph Co.	36-39
National Printing Appliance Corp.	10 and 11
National Steel & Copper Plate Co.	51
New England Newspaper Supply Co.	41 and 42
Printing Equipment *Engineer*	1
Rapid Electrotype Co.	5
Richards, J. A., Co.	48
Robertson, R. R.	57 and 58
Rolled Plate Metal Co.	21
Rouse, H. B., & Co.	40
Sears Limited	31-35
Stahi Newspaper Supply Co.	55 and 56
Tingue, Brown & Co.	47
Wood Newspaper Machinery Corp.	27 and 28

A not inconspicuous item in the Flint (Mich.) Journal's modernization program is the overhead duct system in which is contained the current carrying wires to the composing machines. Procured from the Square-D Company, the two ducts are mounted parallel above the machines and supported by 1½ in. angle iron braces bolted to the distributor brackets. One duct is used for 110 v. lighting circuit and the other for 220 v. motor and pot circuits. The duct is furnished, says Chief Machinist H. George Gilbertson, in 5 ft. lengths with suitable joint and end connections; is 2 in. sq.; furnished coated with black enamel; has hinged cover for accessibility and to keep out dirt and dust, and knockout plates are stamped in three sides of each duct spaced 3 in. apart.

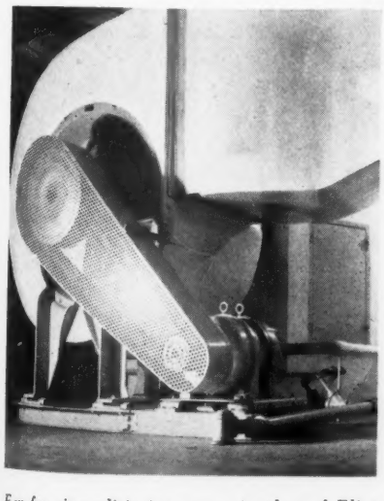
Flint (Mich.) Journal

Building completely modernized and revamped—New equipment added to production departments.

AFTER extending floor space, completely revamping and modernizing its building and equipment and adding new equipment, the Flint (Mich.) *Journal* issued a special Open House Edition on March 15. The *Journal* organization also invited the public to inspect its modern quarters to see how a newspaper is made. During the entire program the work of manufacturing the *Journal* was carried on without interruption. In addition to the extension of floor space, refinishing floors, walls and ceilings, an all-weather air conditioning system was installed. A new automatic passenger elevator of the latest type was installed. The freight elevator was completely overhauled. A modern lighting system is used throughout the building.

Sound Absorbing Treatment

Approximately 11,000 square feet of Johns-Manville Sanacoustic Sound Absorbing Treatment has been installed over the ceiling areas of the pressroom, mail room and the composing room. The treatment consists of a perforated metal formed facing finished in baked enamel which serves as a container for a special rigid rock wool pad, the sound absorbing medium. It is said that 85% of the reflected sounds striking the units are absorbed.



Fan for air-conditioning system in plant of Flint (Mich.) Journal.

All-Weather Air Conditioning

The air conditioning system installed in the *Journal's* new building consists of an all-year-round system. This means that the air is filtered, heated or cooled, humidified or dehumidified depending upon the time of the year the system is in operation.

In the winter time the air after filtration is heated by means of a heating element, the steam supply to which is controlled by room thermostat. Similarly in the summer time the air is cooled by means of cooling coils, the water supply to which is controlled by room thermostat.

The proper humidity is maintained in the winter time by means of surface humidifiers and controlled by a humidistat. In the spring and fall when no heating or cooling is necessary, the ventilating system handles all fresh air filtered and delivered to the various departments. The cooling medium is water pumped from a well adjoining the building.

Illumination

The pendant type of indirect lighting installed in the remodeled *Journal* building, done with Magnalux equipment, was manufactured by Westinghouse. The illumination from this equipment is totally indirect with the exception of a very small percentage of light which is transmitted through the basin, says R. D. Bradley, Westinghouse engineer. The transmitted light is only decorative and renders the basin the same color as the light ceiling.

Mechanical Departments

In the composing room, supervised by Al Oberg, 13 Linotypes and 5 Intertypes are used for line-slug composition. The *Journal* makes its own type for advertisement composition. Two Giant Casters and a Material Maker compose the Monotype equipment. An Elrod Strip Caster is also used. H. George Gilbertson is machinist in charge.

Much of the specialized sheet metal furniture installed in the *Journal* mechanical departments was furnished by the Angle Steel Stool Co. Notable in this group, according to N. H. Sherbourne of the company, is the mat packing table designed by C. H. Rinne of the Booth organization of which the *Journal* is a unit.

In the pressroom, three Goss octuple presses of the deck type are used. In order to conserve space the units are superimposed. The height of each press is 14 ft. by 10 ft. wide.

Overhead Ducts for Power and Light

Composing Room Superintendent Al Oberg and Chief Machinist H. George Gilbertson are proud of the composing room equipment layout. Of particular interest is the overhead duct system for bringing electric current to each composing machine. Favorable comment has been made by those composing room executives who have visited the *Journal* upon the neat and compact appearance of the wiring ducts.

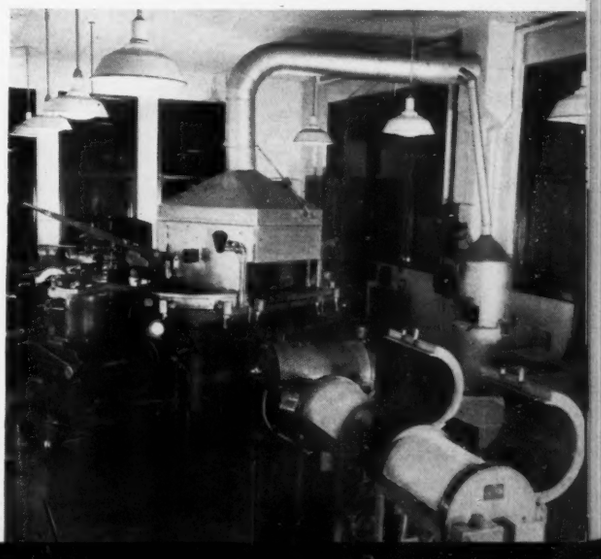
System Described

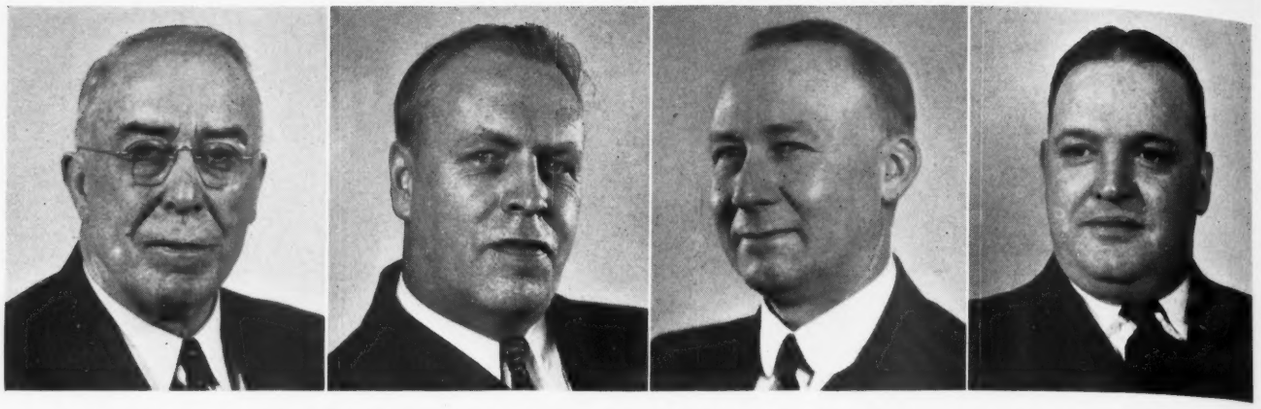
The editor of *Printing* Equipment *Engineer* has asked Mr. Gilbertson to describe the duct system for our readers. Here 'tis:

The duct used is 2 in. square, black enameled, and has a hinged cover on one side.* Two of these ducts are bolted together, side by side, one carrying 110 v. for lights, the other 220 v. for motors and electric pots. Knockouts are spaced 3 in. apart top and bottom for inserting conduits. The advantage of these knockout plates will be apparent in case it should at any time be necessary to change the spacing

**Furnished by Square-D Company.*

This up-to-date stereotype foundry in plant of the Flint (Mich.) Journal is supervised by Don Clark.





MECHANICAL EXECUTIVE PERSONNEL, FLINT (MICH.) *JOURNAL*

George Crammond
Mechanical Superintendent

Al Oberg
Composing Room Superintendent

George Gilbertson
Chief Machinist

Don Clark
Stereotype Foreman

of the machines to accommodate additional units. (The knockouts are stamped in three sides of the duct.) The knockouts could also be utilized for attaching machinist's call system and individual distributor lights.

Ducts are placed 7 ft. 4 in. above the floor, running in a straight line over the center of distributors, high enough above the distributors to permit raising the screws. Ducts start at the wall over the power panel, and weight is supported by 1½ in. angle iron bracesbolted to the distributor brackets. Sections are 5 ft. long, with suitable joint and end connections. Inside dimension is large enough to permit running 8 or 10 three-wire circuits, the hinged cover making all wires immediately accessible. Each set of wires has a small tag attached at intervals of 6 ft., numbered to correspond with the number of the main switch from which it feeds.

In place of the customary button motor switch, a Square-D switch box, containing the switch is used. The box is 11 in. high, 7 in. wide, and 4 in. deep and is fastened to the side of the distributor bracket just above the machine column. The shallow depth of the box permits plenty of clearance for the second elevator. This system fuses each motor independently and position of the switch makes it simple for the machinist to shut off current whenever he opens the machine—a safety factor. Current of 220 v. feeds through one conduit to the switch box, electricity for the electric pot being taken from the top of switch, running out at bottom to pot control panel. Thus, when motor is shut off, current to electric pot is not affected. This permits but one set of feed wires from duct to switch.

Each power unit supplies current for motor and electric pots for three machines. Machines with Mohr saws and mold-cooling air blowers have motors hooked into switch with machine motor, so one switch controls all.

Current for lights runs from the other duct through conduit which can be fastened to distributor bracket or into top of switch box for support. Into this conduit is fastened a two-plug outlet terminating about midway between top of machine column and distributor box. One plug is for machine lights, the other for handy attachment of trouble lamp. Each row of machines has an individual light circuit, withdrawing plug cuts current for each machine when changing sockets, etc., becomes necessary. The *Journal* machine light line is out of the way of everything. Feeding from a plug the heavily rubber-covered cord passes to left of transfer and spaceband levers, through the opening below the transfer channel back plate over the delivery slide and out through a half-inch hole drilled in transfer channel front plate. This hole is about 3 in. to the left of the spaceband box and ¼ in. from lower edge. Enough slack is left in cord to permit bringing light to right when necessary for machine or escapement trouble.

Mechanical Conference

Program taking shape—Interesting subjects announced by Manager Wines

THE program for the A.N.P.A. Mechanical Conference which is to be held at the Royal York Hotel, Toronto, on June 6, 7 and 8, is definitely taking shape, although at the time this article is being printed, assignment of all subjects to certain sessions had not been completed. W. E. Wines, Manager of the Mechanical Department, however, states that in addition to the formal or main meetings on Monday, Tuesday and Wednesday, there will be group meetings on Monday and Wednesday afternoons immediately after adjournment of the main sessions. Photo-engravers and composing room executives will meet Monday afternoon. Pressmen and stereotypers will meet Wednesday afternoon.

W. E. Wines, Manager, A.N.P.A. Mechanical Department

Tuesday afternoon has been set aside particularly for executives from the smaller newspaper plants. For this session will be listed all the items on the program which bear directly upon their problems.

The address of welcome on Monday morning will be extended by Ralph C. Day, Toronto's mayor.

Program Subjects

Listed by mechanical departments, the following subjects have been announced as definitely scheduled for the program:

Photo-Engraving

"My Experience with a Small Engraving Plant." Francis A. Lee, Editor, Oneonta *Star*.

"Preparation of Photographic Copy." W. S. Lund, Art Director, Toronto *Telegram*.

"Shellac for Photo-Engraving." Morton Noble, Valentine & Co.

Composing Room

"A Unique Cost Finding System for the Composing Room." A. M. Jullien, Lansing *State Journal*.

"Proofreading." Geo. I. Campbell, Hamilton *Spectator*.

"Symposium on the Management of Small-Newspaper Composing Rooms." By the Committee.

Stereotyping

"Some Properties of Dry Mats." Dr. A. W. Schorger, Chemist, Burgess Cellulose Co.

Other subjects to be announced.

Pressroom

"Effects of Humidity upon Newsprint." J. P. Grant, Paper Chemist, New York *Times*.

"Newsprint Conservation." T. A. Corcoran, Louisville *Courier-Journal*.

"Tubular Press Operation." R. W. Angell, Foreman, Ithaca *Journal*.

"Ways to Reduce Roll Widths." Committee on Miscellaneous Subjects.

General

"Improved Printing Methods." A. L. Lengel, Production Manager, Oakland, Calif., *Tribune*.

What Is It?—IX

Types of cameras, wet and dry plates, vacuum backs, focussing, line and halftone work and use of filters outlined.

By ADAM HENRI REISER

INTRODUCING the reader to the camera was the purpose of the last article. Starting at the copy board, we worked back, leaving the back board and some of the other camera essentials for this article. And while the copy, lens and other parts described are essential to good camera work, the back end is highly important, for it is there that the negative or positive really takes form.

Three popular arrangements of backs (not football) are shown. Fig. 23 depicts the open floor type, while Figs. 24 and 25 show the back in the darkroom. In Fig. 24 the lens board is made part of the darkroom wall and remains stationary, whereas the back board of the camera in Fig. 25 is made part of the darkroom wall, and in this case cannot be moved. However, two movable elements are always present to obtain the proper size and sharpness of the image.

These arrangements apply to the floor type of camera as well as to the overhead suspension camera. It might be wise to mention at this time that all cameras must be insulated against shock so that no vibration may be transmitted to any part of the equipment. A recent installation makes use of rubber and patented damping material to eliminate this transmission of vibration. Most popular, however, is the spring suspension type wherein the three-point idea is employed.

Each method of back arrangement mentioned above has its firm supporters. It has been conceded, generally, that the darkroom camera is by far the most practical for lithographic work. It has been, therefore, accepted installation in lithographic plants. This can also be applied to the overhead camera. Many steps are saved in passing between the copy board and the lens board of the overhead suspension camera which would have had to be taken around the floor type.

In any darkroom camera, the extra work of loading the plate holder and carrying it out to the camera in another room is omitted. Efficiency is raised to a higher plane, especially if the equipment enables the operator to make his adjustments from the inside of the darkroom. Of course he still has to tack up his copy and adjust his stops on the outside of the darkroom.

Some Photographic Material

Camera backs are equipped to handle either one or all of three different types of sensitive material. Paper, film or glass may be used as a base upon which the light-sensitive emulsion is placed. Glass is the only medium which is used to hold the layer in a wet state, in this particular instance being only sensitive when wet. From this trait comes the name of "wet plate," by which it is known. But glass also holds a layer which is used in the dry state, giving it the name of the "dry plate." The difference in the composition lies in the collodion emulsion layer which holds the sensitive silver salts on the wet plate, whereas the dry plate makes use of a gelatine emulsion to hold the silver halides. The collodion emulsion layer is also used in a dry form, in the case of strip film, for illustration. Silver halides are held in suspension in any of these emulsions, the former providing the sensitive material.

Wet plate work is fast giving way to film. Newspapers, the last stronghold of the wet plate method, are even changing over to strip film. An article published some time ago in *Printing* Equipment *Engineer* described this change on the Cleveland *Plain Dealer*. Film and paper negatives have done the same for photo-lithography to a great extent. Vast improvements in films have made possible their substitution for dry plates even in the color field.

Where wet plate was used it was customary, wherever possible, to confine the use of one camera to this class of work. This was thought good policy because of the cleanliness factor. Wet, dripping plates cause corrosion and when evaporation sets in, flakes cause no end of troubles when film or dry plates are used in that camera. It was also thought that there were good gounds for the assumption that a chemical action caused fog and other difficulties detrimental to dry plate work.

Glass plates may be clamped firmly in the camera back, so that the forward surface lies parallel to the copy board. But when film or paper is used, special means must be adopted to hold the material and assure every inch of its surface lying in a plane parallel to the copy board. The roll-fed device mentioned in the *Printing* Equipment *Engineer* article is one method employed. It limits the resulting product, however, to a comparatively small size. Another way, that of taping the edges onto a glass plate offers unsatisfactory results, too.

One of the means used to fasten film or paper takes the name of stayflat. This device is made up of a sheet of glass or aluminum coated with a thick layer of sticky composition made up of glycerine, gelatine, syrup and water. When the film or paper is laid with its back to the stayflat, the forearm is drawn over the face of the material fastening it in this way to the stayflat. The entire device is then clamped into the camera back. However, air blisters often occur under the paper or film and out-of-focus spots result.

Fig. 23.—This diagram represents the open, floor-type of process camera.

The Vacuum Back

To facilitate production then, the vacuum back came into use. A series of holes in pipes that traverse the area of the back, are used to evacuate the air between the film and the holder, when a pump connected with the pipes operates. This will hold the film until the pump is cut out. But this, too, had its disadvantages. Any uncovered holes or leaks will cause a failure of the device. Therefore, whenever the size of the film changed with the requirements of the job, shields of various sizes had to be employed. When the shot was off-center, the mask had to take a special form. And so finally the suction principle found favor. With this method, the photographic material may be placed in any part of the holder and be assured of lying perfectly flat.

Fig. 24.—Same camera as shown in Fig. 23, but adapted as a dark room process camera. The lens board is fastened to the dark room wall.

Fig. 25.—Diagrammatic representation of floor-type camera shown in Fig. 23 adapted as a dark room process camera with the back board fastened to the dark room wall.

Fig. 26 shows such a back, while Figs. 27 give front and back views of a suction back made for enlargements.

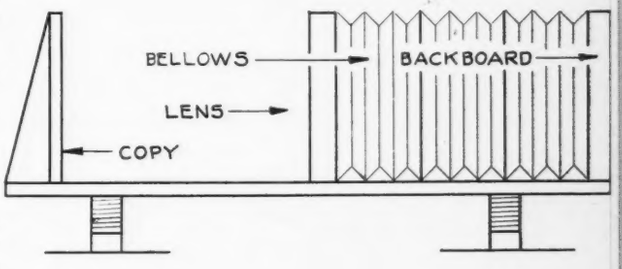
The Sharp Image

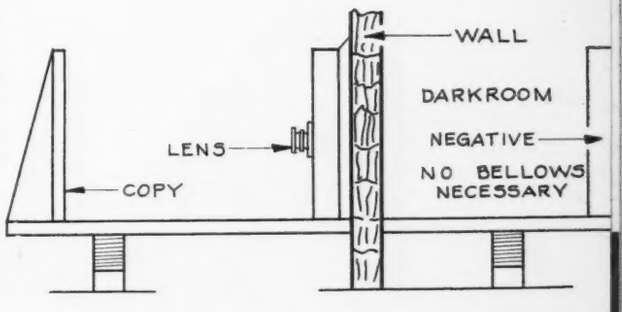
Before any photographic material is positioned in the camera back, it is necessary to get the image the proper size and as sharp as possible. Focussing, the operation which procures this desired result, takes place on a ground glass. This glass derives its name from the grained or mat surface on its one side. This is used to arrest the rays of light coming through the lens, and falling on that grained surface placed face to the lens in exactly the position that the sensitive material will occupy when the photograph is made, thus produces the image. Size and sharpness are obtained by moving the copy and lens in or out from the back. When the lens board is part of the darkroom wall, the same end is accomplished by racking the back board in or out, in conjunction with the copy board.

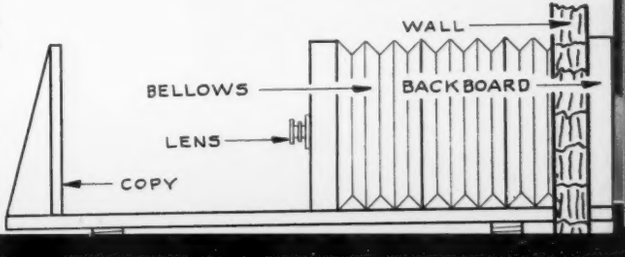
When focussing is complete, the ground glass may be lifted out, if the same manner of placement is followed as when using dry plates. Another method makes use of hinges fastened to the top of the holder. This permits swinging the ground glass up out of the way when not wanted.

Needless to say, focussing must be carried out with the opening in the lens the proper size. This is determined by practical experience to be about one sixty-fourth of the camera extension, for general work. An iris diaphragm between the two elements of the lens assists the photographer in getting these round openings of various sizes mechanically by turning the knurled outside rim of the device. Slotted stops are often used in conjunction with this iris diaphragm.

In halftone work, stops are used that differ from the round iris stop mentioned above. Of many conceivable shapes, these stops have varied claims for their use. Cross-shaped stops, some have numerous bars running through a central point, others have a number of holes about 1/8 in. diam. arranged somewhat like a screen pattern, are all intended for use in a separate slot in the lens barrel. The stops which find the most univer-







sal use, however, are the exact square stop and the square stop with the pulled-out corners.

Lights For Copy Illumination

Lights used to illuminate the copy play an important role. While the single and double arc carbons are popular there is considerable progress reported in the electrical field. This may change the picture in the near future. Exposure time is controlled to a considerable degree by the proximity of the lamps to the copy. The angle at which these shine on the copy must be watched, too, 45 deg. being the accepted angle for standard work.

Difference Between Line and Halftone

When a halftone negative is desired, a screen is positioned mathematically correct between the lens and the ground glass or sensitive material in the camera back. Right here might be a good place to explain wherein line and halftone differ. Up to this time, photographic work in the graphic arts takes two main forms for practical production purposes. Line or halftone negatives or positives may be printed to pressplates thus creating actual printing mediums. Where a copy has definite whites and blacks a line negative will do. Where the copy has all gradations and tones ranging from black to white, a continuous tone negative is called for. But, this can be used directly for reproduction purposes in but one form of printing, the gelatine printing process of lithography—sometimes called collotype. Therefore, to get reliable printing areas, the printing trade makes use of the halftone negative.

The Halftone Screen

Solid dots of different sizes are produced mechanically by means of a screen placed in front of the light-sensitive medium. This screen is composed of two pieces of glass cemented together. Each glass contains a series of parallel lines engraved on its surface, the lines being as broad as the white spaces between them. The number of lines per inch determine the name of the screen; 133 lines to the inch being known as the 133 line screen and so on. When the glasses are cemented, the engraved sides are laid face to face with the lines on one running at right angles to the lines on the other.

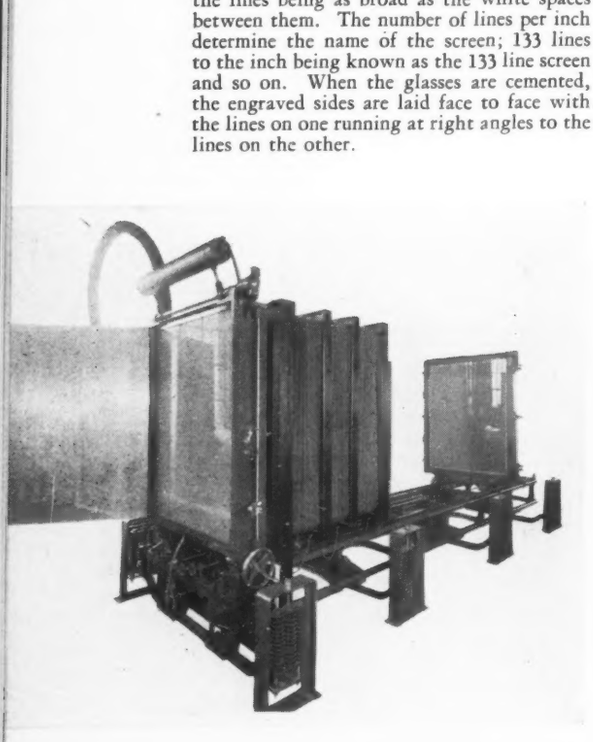


Fig. 26.—Photographic material may be placed in any part of this suction back holder with the assurance that it will lie perfectly flat.

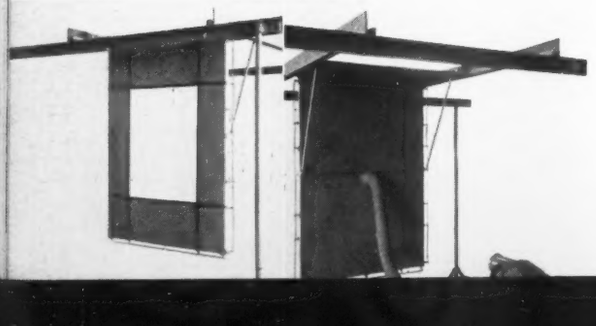


Fig. 27.—Suction back made for enlargements. At left is front view; at right, back view.

When this halftone screen is used, extreme care must be exercised in the degree of the angle of the lines with respect to the perpendicular of the copy. Care must also be taken with the distance the screen is placed from the photographic medium. This distance, known as the screen distance, contributes to the dot formation of the negative. Two methods are used by the photographer in the placement of the screen. The first consists of keeping the screen distance constant for like screens no matter what the problem of reduction or enlargement. Thus for 133-line screen, the screen distance is kept at about one-quarter of an inch. That definitely sets one of the factors which govern dot structure. Two of the remaining three are determined definitely by the size of the reproduction called for and the screen wanted. That leaves the stop, the only one to be determined.

Second Method Dot Control

The second method of dot control makes two of the factors variable. Not only will the stop vary with each problem but there will be a change in the screen distance. Computation is carried out using the formula of ratios; the stop is to the camera extension as the screen opening is to the screen distance. In this second method camera extension and the screen opening will be fixed again by the demands of the production. Most operators use the first of the two methods.

With everything else the same, increasing the screen distance should have the effect of greater contrast, while decreasing the screen distance will diminish the contrast.

Screen Angles

In monochrome work, the screen angle is kept at 45 deg. When tri-color printing is attempted, the screen angle of each color varies 30 deg. from the preceding one. Thus if the yellow is shot at 15 deg., the blue is shot at 45 deg. while the red takes the 75 deg. angle. When four-color work is the order, a split may be made in the 30 deg. of one angle, the possible arrangement being, blue at 45, red at 75, black at 15 and the yellow at 90 deg.

To enable rotation of the screen, it is usually circular in shape and bound with an aluminum rim which has the angular degrees marked upon it. The screen rides on a set of rollers which facilitate its rotation to the desired angle. Screen removal is made easy by one of several methods. It may be rolled on tracks to a position beside the camera, out of the way. Or, the screen and its holder may be slid up into a housing over the camera. Or, if small, it may be lifted out and rested on an easel—a dangerous procedure. A mechanism is included in the camera to enable the operator to obtain and change his screen distance at will.

Other screens than the halftone, the name commonly applied to the cross-lined screen, are sometimes used. Two rarely used forms of these are the Ben Day and the Grain screen.

Filters for Color Separation

In color separation work, a trap or filter is used to hold back the rays of certain colors while others are permitted to pass on through and act on the sensitive material. These filters may be fashioned of three different types of materials, glass, liquid or gelatine, the latter being by far the most commonly used. They are placed in special holders directly in front of the lens. Filters for three-color work are red, green and blue which will produce when used with the proper materials, the blue, red and yellow negatives, respectively. For four-color work, the K3 filter of a light, greenish yellow color is used to get the black.

Line work

And now to get at the job. The easiest form of photographic reproduction in the graphic arts is line work, although all line work is not simple. While line work copy offers the easiest form of work, there are times when vexing problems arise caused by the color and composition of the copy. The old accepted method of producing line work was through the medium of the wet plate. A clean glass, coated with a substratum or prime coat, is coated with collodion. When this is set, the glass is inserted in a solution of silver nitrate. After enough of the silver salts in the bath have impregnated the collodion, it is light sensitive. This is usually indicated by the milky white appearance of the coating on the glass. The glass is then placed in the camera, the light sensitive or coated side, towards the lens. All is then ready for the exposure. When film, paper or dry plate is used, the emulsion side is also faced to the lens. Only in special occasions is this procedure deviated from, for if the light rays should have to travel any additional distance as they would when required to pass through the glass at the back of the emulsion, then the size and sharpness of the negative would be affected.

When the exposure is made, light rays reflected from the copy strike the lens and converge or are bent in towards its centre. All light rays which enter the lens find their way through this focal point in the center of the lens and then pass on to the light sensitive material in the camera back. This image lies upside down as well as backward. Why is this so? The tenth article of this series will develop the reason and also give a further treatment of camera work.

In the present article, we have started with the backboard of the open-floor type of camera and the darkroom model. The ground glass, halftone screen, stops and filters, and the various types of photographic materials and their holders have been taken up. Some of the principles behind the setting of the stops and screen distance as well as focussing have also been laid bare. This subject of camera work is vitally important to the graphic arts. From all indications the methods of a few years hence will be considerably different from those of the present.

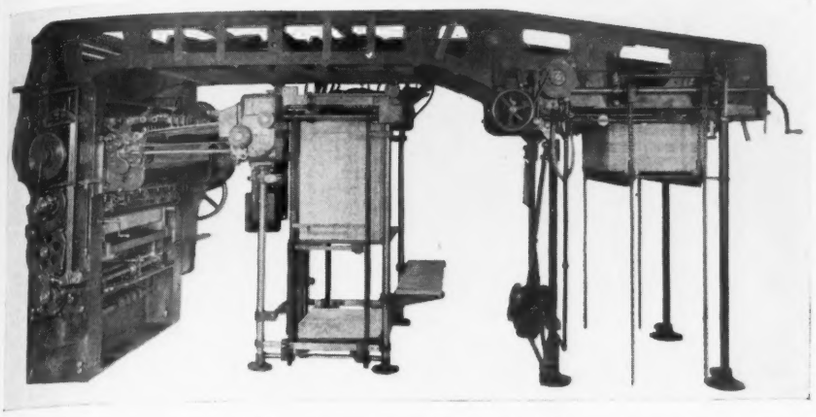
School Opens in Cleveland

A new session in the series of Kelly Press Schools sponsored by American Type Founders opened in Cleveland last month. Practical instruction in these schools is offered experienced pressmen on the new ATF 17 x 22 Kelly automatic press. ATF's Cleveland Branch Manager C. Raasch was in charge of preliminary arrangements for the School. Jack Walsh, from the Kelly Press Department of ATF, Elizabeth, N. J., was instructor. School was held at the Cleveland Branch, 1231 Superior Avenue.

Lawson Passes

Edgar Percy Lawson, 65 years, chairman of the board, E. P. Lawson & Co. Inc., New York, died April 18 at Safety Harbor, Florida. Mr. Lawson, whose home "Breakwater House" is located at Southport, Conn., had spent the winter in the West Indies cruising on his yacht "Infanta." He is survived by his widow, Mrs. Ann Orr Lawson and a daughter Jeanne, who is a student at Vassar College.

New Equipment-Supplies

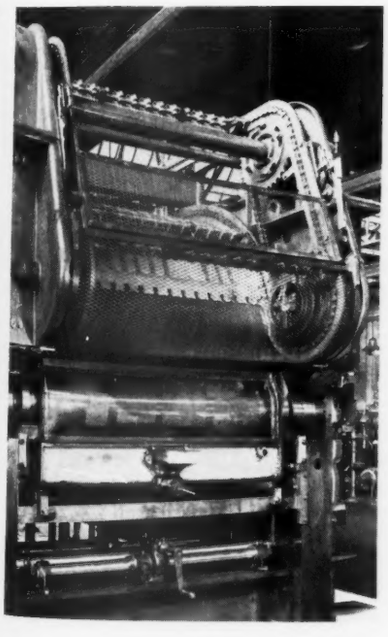


View of Miehle Printing Press & Mfg. Company's new No. 44 sheet-fed gravure printing press. (One of two new models announced recently.) Takes sheet 29 in. by 43 in. Prints either from solid cylinders or from plates fastened to plate cylinder—in latter case cylinder is gapless. Maximum running speed said to be 5000 to 5500 i.p.h.

New Gravure Presses

The Miehle Printing Press & Mfg. Co. reports the construction and putting into service-for-test two sheet-fed gravure printing presses. One model, known as No. 57, takes a sheet 42 in. by 58 in. The other model, No. 44, takes a sheet 29 in. by 43 in.

The maximum speed of the No. 44 press ranges from 5000 to 5500 i.p.h. Builders state unusual rigidity and strength of impression have been incorporated in the design of the press. Plate size of the press is 44½ in. by 37⅜ in. by 0.023 in. Length of solid plate cylinder is 44½ in. Blanket size, 44 in. by 42 in. by 0.062 in.



Outside end view of new Miehle No. 44 gravure printing press, showing close-up of printing unit with design cylinder behind transparent cover.

The largest sheet which can be delivered is 29 in. by 43 in. and the smallest is 16 in. by 24 in. Maximum design surface is 28½ in. by 42 in.

The presses are built so the design may be carried on either solid copper cylinders or a copper plate may be strapped about a cylinder. In the latter case, the attachment of the copper plate is simple. There is no gap over which the doctor blade must lift by reason of the application of a closely-fitting gap cover.

The press is equipped with what the manufacturer states is a self-sharpening doctor blade mechanism. The doctor blade is in the form of a continuously traveling belt which passes over and between cleaning mechanisms, sharpening and honing stones, after which it returns to its original wiping position. The registering mechanism is the same, and the delivery is similar to that used on Miehle's high-speed offset presses.

Overall width of the press is 10 ft. 7½ in.; length is 23 ft. 8⅜ in., and height is 9 ft. ¾ in. Gross weight of press and feeder is 32,140.

P-Double-E File Nos. 2BI3 and 5LL33.

Motorized Scooter for Light Delivery

It is now proposed by Moto-Scoot Mfg. Co. that its motorized scooter, fitted with or without rear compartment or side car, be used for light package delivery. It is also suggested that these new vehicles be used for interplant delivery. Moto-Scoots are powered with ¾ and 1 h.p. motors. Said to travel over 100 miles per gallon of gasoline. Capable of speeds up to 35 m.p.h.

Mechano Spray

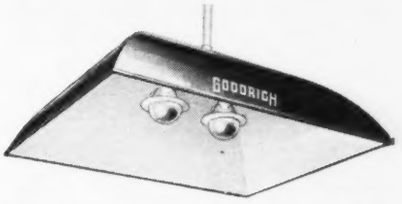
Mechano Spray, manufactured by Mechanospray Company, can be used on small or large presses for spraying automatically a thin chemical coating on printed work to eliminate offset and the necessity for slipsheeting. Heavy overprints of two or more colors and metallic ink printing may be successfully produced. Mechanospray is controlled by mechanical means. Sprays on the printed sheets as they are delivered to jogger. Manufacturer states can be run on every color as it does not interfere with printing of the following colors.

P-Double-E File No. 5EE.

"Spraylite" Lighting Fixture

The "Spraylite," a newly designed fixture produces soft, diffused illumination for close detail work in composing rooms and other departments of the printing plant. The fixture is finished in vitreous fired porcelain enamel, pure white inside, and measures 28 in. by 36 in. to insure a large reflecting surface for the diffusion of light to eliminate shadows and relieve eyestrain. The fixture uses bowl-silvered lamps, and all harshness, says manufacturer, is eliminated with specially designed "no glare" louvers which fit at the lamp's bowl-silvered line.

One of the features of this fixture is in the ease of keeping it clean. Cleaning may be accomplished by occasionally wiping off lamps and reflecting surface with a damp cloth.



"Spraylite"—new inverted dome type of lighting fixture.

Complete information may be obtained from the Goodrich Electric Company, or through *Printing* EQUIPMENT *Engineer.*

P-Double-E File No. 1GG.

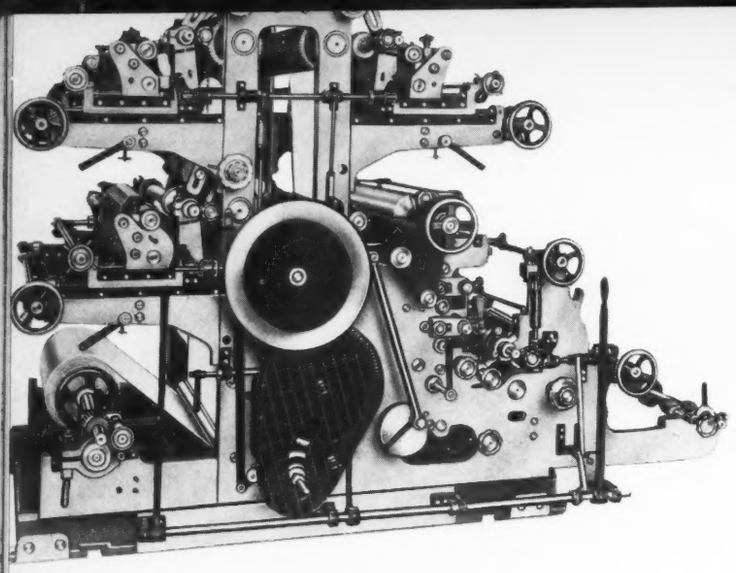
Flamenol Cable for Control Circuits

Because it is available in a variety of nine colors and its immunity to corrosion from printing ink, General Electric's new Flamenol cable is particularly adapted for use in complicated control arrangements and other printing machinery circuits. In fact, it can be used for any press control circuit, because manufacturer states its limit for ordinary use is 600 volts. Additional reasons for its suitability for other uses in the printing industry include: Immunity to oil, water, acids, alkalis; flame resistance; high dielectric strength—720 volts per mil. (test results); and its small diam. (approx. ⅛ in.).

Flamenol, the covering used to cover the cable, is a synthetic rubber product. It resembles rubber, but contains none.

General Electric states that two large publishing companies have each purchased more than 5000 ft. of Flamenol for use in control of printing equipment.

Flamenol, the new cable recently announced by General Electric, has a single covering of synthetic compound. Approx. ⅛ in. diam. Furnished in nine colors to identify circuits.



At Left—View of Milwaukee Roto-Lin printing press. Prints from roll to rewind or to sheets cut by sheeter, by aniline, oil or rotogravure inks in one to six colors on many kinds of stock.

Milwaukee Roto-Lin Press

C. B. Henschel Mfg. Co. announces what is termed "a new all-purpose printing equipment"—the Roto-Lin printing press. The press will print aniline, oil, or rotogravure inks, in one to six colors on fancy and wax papers, glassine, cellophane, metal foils, cloth or any paper from thin tissue to carton stock. The press prints from roll to rewind or to sheets cut by the specially constructed Milwaukee Sheeter which is driven in combination with the press or through the same drive shaft.

The Roto-Lin press is made in stock sizes 16, 20, 24, 28, 32, 36, 40, 44, 48 and 52 in. Printing cylinders from 2½ in. to 10 in. diam. can be used, making printing lengths between 7½ and 31½ in. Speed is from 20 ft. up to 400 ft. per min. according to print and material.

Fountains are totally enclosed to reduce ink evaporation to the minimum. Drive of the inking rollers is separate from the design rollers. Drive between colors is by bevel gears and shafts arranged so slightest adjustments may be made easily and speedily. Drive of design roller is by means of two intermediate gears with synchro-mesh teeth, so that when pressure is being adjusted the gears always revolve in their pitch circle. Register is insured by use of synchro-mesh cut gears in the drive for the fountain units.

When the press unit is stopped, the plate cylinder lifts automatically from the paper and from the inking roller at the same time. The inking rollers continue to run to prevent drying of the ink. The paper is held taut so that when the machine is again set in motion the plate cylinder automatically takes up its correct position and operation continues without tearing the web.

Letterpress printing or bronzing is available as the machine can be furnished with a special fountain with ample distribution rollers covered with oil-resisting rubber. It is possible to print in one operation aniline inks, rotogravure and one-color letterpress or bronze sizing. For the latter, however, the Milwaukee Bronzing Machine is attached.

The Rotogravure attachment will print all classes of work. Quick drying is assured by a heating plate and suction blower.

The slitting device trims and slits the web, but for cutting narrow webs of about ½ in., a slitting machine with two rewinding shafts is recommended.

All drive shafts, ink fountain rollers, impression cylinders and guide rollers run in ball bearings.

P-Double-E File No. 5LL36.

"Palatia" OP Sheet-Fed Gravure Press

Albert Merz, who represents the European manufacturers of the Frankenthal sheet-fed gravure press, "Palatia" OP, states the press is made in three sizes, as follows: 22 in. by 30 in., 26 in. by 38 in. and 30 in. by 44 in. Average production is said to be from 4000 to 4500 sheets per hour, but speeds of 5500 sheets are obtainable.

The pressman's position, says Mr. Merz, is in the center of the press and the low construction allows him to overlook the entire press from the feeder to the delivery without moving from his position.

Swinging pre-grippers assure perfect register at top speed. The sheet transport is an endless chain-gripper system. From the impression cylinder to the delivery the sheet is subjected to a continuous stream of fresh air. The sheet is delivered perfectly dry. The impression and plate cylinders are of large diameter with high impressional power, yet permit smooth and easy running of the machine. The cylinders run in roller bearings. The driving wheels are obliquely toothed to insure practically noiseless operation.

The plate is clamped in the same manner as on offset presses and the gap is closed so that no ink can flow below the plate. Extended front pile delivery and arrangement for test sheets. The doctor blade is held in position and pressure is regulated by a weight. Doctor may be swung up clear of plate cylinder.

P-Double-E File No. 00000

Two New Dyestuffs

Two new dyestuffs for use in coloring printing inks are announced by the du Pont Co. "Lithosol" Yellow G Concentrated, the latest addition to the du Pont range of colors for the lake industry, is similar in shade to "Lithosol" Fast Yellow HN Powder but is darker in masstone. The new product is non-bleeding in water, shows only a slight bleeding in oil and alcohol and has demonstrated satisfactory light fastness. It has an exceptionally high tinctorial value and is expected to prove of interest where economy is a factor.

"Monastral" Fast Blue GS, a new pigment color, is very close in shade to peacock blue, and is greener than "Monastral" Fast Blue BSN. Like the BSN type, the new color has shown fastness to light, acids, alkalies, and lime, and does not bleed in oil, water, or alcohol. Because of the greenness of shade, it is expected to be useful for fast greenish blues and in combination for bright greens.

Taber Stiffness Gauge

Taber Instrument Company announces the Taber V-5 Stiffness Gauge and Triple-Cut Shear, for the measurement of the stiffness and resilient qualities of paper, coated fabrics, light metallic sheet and wire. The Triple-Cut Shear is an important accessory to the V-5 Gauge as it blanks out test specimens accurate to size, insuring against dimensional errors

Taber V-5 Stiffness Gauge with Triple-Cut Shear for blanking out accurate test samples.

associated with single shears. Both units are light and portable and can be used anywhere, in the laboratory, office or plant. The Gauge's simplicity of operation and quick direct readings make it easy to use, even by those without previous technical experience.

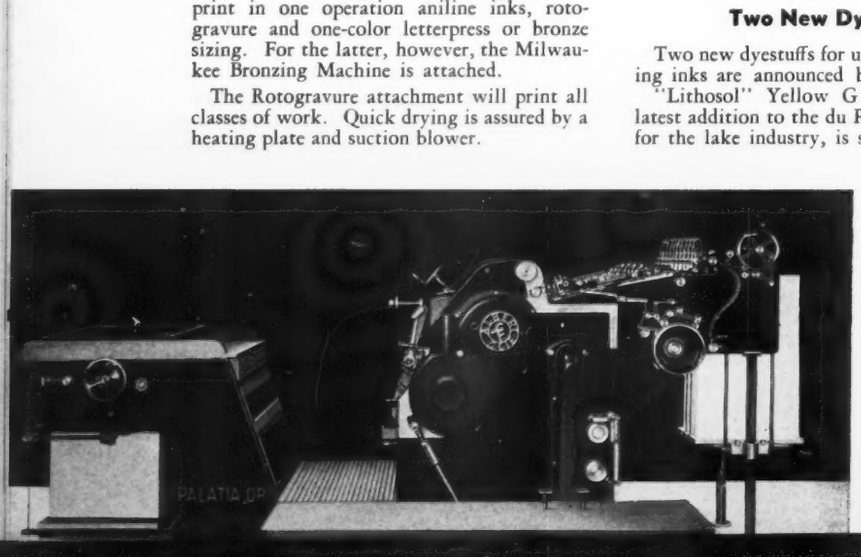
Features: Metric calibration with continuous scale from 0-2000 gram centimeters; advanced design, rugged construction; no electrical contacts or connections; sensitive bearings sealed in lubricant for years of service without further attention. Bulletin 3802 will be mailed on request.

Overload Relay

Struthers Dunn, Inc., has recently developed a new overload relay. This unit is available for use on either d.c. or a.c. The contacts are rated 30 amps. at 110 volts a.c., 20 amps. at 220 v., a.c., 6 amps. at 110 v., d.c., and 3 amps. at 230 v., d.c., on non-inductive loads.

This relay is somewhat similar to this company's line of mechanical latch-in electrical reset relays. The contacts can be arranged to be closed manually or by means of a voltage operated coil and when closed, they latch closed. The latch is adjusted to pick up and open the contacts when the current in the overload coil reaches the proper value. This setting is adjustable by means of the knurled nut on the top of the relay over a range of 2 to 1.

Complete information may be obtained by writing to the company direct or in care of *Printing* Equipment *Engineer.*

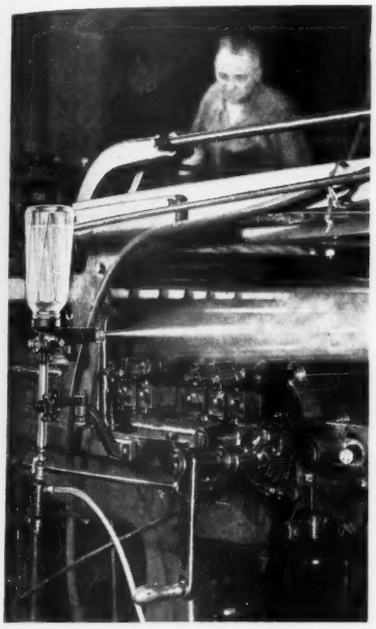


At Left—"Palatia" OP Sheet-Fed Gravure Press. Average production said to be 4000 to 4500 per hour.

Frapomist

Frapomist is the name of a device for spraying a fine mist of glycerine and water vapor onto ink rollers while the press is in operation. Its principal component parts are a container for the fluid to be sprayed in mist form upon the inking rollers, a bracket for supporting the container and a nozzle from which the fluid is ejected. The device is attached to any press by drilling and tapping two holes in the press frame. On the Miehle press the hose connection is made to the air check. For installation on rotary presses or other presses not equipped with air checks, a supply of air is provided with an electrically operated valve. Two devices for each color are required for presses of greater than average width.

Claims made by manufacturer are as follows: (1) Lengthens life of composition rollers; (2) Keeps composition rollers tacky; (3) Saving in ink consumption; (4) Reduces offset because the ink has a better affinity for the paper and lies closer to it. By reduction of amount of ink used and by non-absorption of driers, a



noticeable reduction in offset is effected; (5) Eliminates ink doping since Model C Frapomist is provided with auxiliary reservoir into which reducer may be introduced as required; (6) Eliminates picking; (7) Improves quality of printing because color is more brilliant; (8) Wash-ups reduced 50%; (9) Increases production by reason of fewer wash-ups and less roller changes; (10) Improves overprinting; (11) Increases efficiency of rubber rollers by keeping them free from caking ink and providing tack to print well; (12) In connection with the new quick drying inks used at increased temperatures, Frapomist keeps rollers and ink cool.

Frapomist is made in three models. Model A is simple device for spraying fine mist of glycerine and water vapor onto inking rollers. Model B is provided with adjustment for amount of spray, air pressure gauge and air cleaner. Model C is equipped with adjustment for amount of spray, air pressure gauge; air cleaner and auxiliary reservoir foraddition of reducer or for rubber roller conditioner.

Further information may be obtained from Frazier Processes, Inc., direct or through *Printing* Equipment *Engineer*.

P-Double-E File No. 5WW.

Intertype-Linotype Adjustable Line

Precision Steel Company announces an adjustable liner for use in Intertype-Linotype molds, except fudge and recessed molds. The liner is adjustable to all full and half measures from 4 to 27 picas and is made in point size body range from 5 to 14 pts.

The left-hand or constant piece of the liner fits in the mold in the usual way, just like a 30-em liner. The adjustable end of the liner (the position of which determines the slug length) is fitted with three spring prongs on its upper

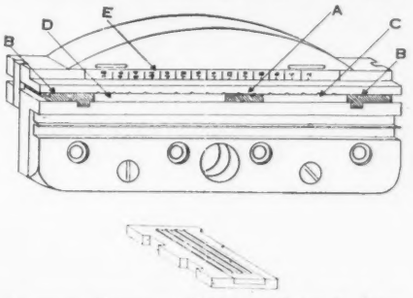


Diagram illustrates All-Measure Liner for Intertype-Linotype molds. In the upper diagram at A *is indicated the adjustable liner piece shown in perspective in the perspective drawing below. At* B *left is shown the constant piece which is similar to a standard 30-em liner (this particular diagram shows a Linotype mold).* C *represents the opening or cell in the mold in which the slug is to be cast. At* D *is the opening between the constant liner piece and the adjustable liner piece. While the first slug is being cast after a liner change the orifice* D *will be filled in with metal. To determine the correct position of the adjustable liner piece* A, *one of three spring prongs engages a rib groove in the mold cap.*

surface. One of the prongs will engage one of the rib-grooves in the mold cap to locate the adjustable piece for em length of the slug. The other two prongs are depressed in the grooves provided in the adjustable liner piece.

In the universal mold cap the rib grooves (between 4 picas and 27 picas) are spaced two picas apart. The spring prongs of the adjustable liner piece are spaced one-half pica apart. Because of the spacing of the spring prongs in relation to the spacing of the mold cap rib grooves, any measure between 4 and 27 picas can be obtained, the engagement of one of the prongs in a rib groove determining the length of slug to be cast.

P-Double-E File No. 1G9.

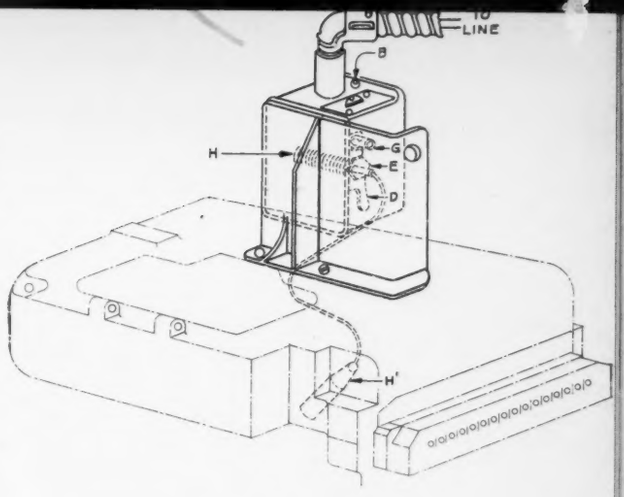
New Matrix Cuttings

The latest combination of the Vogue family announced by Intertype is Vogue Extra Bold duplexed with the regular Vogue Bold, a paragraph of which is shown below. This is set in the 12 point size.

THIS paragraph set in 12 Pt.
Intertype Vogue **Extra Bold**
with Vogue Bold $12345678

The Intertype Beton family is being extended to include the medium weight combined with Italic and Small Caps. The specimen shown below is set in the 12 point size.

THIS PARAGRAPH is set in
12 Point Beton Medium with
Italic and SMALL CAPS $1234



Intertype Bulb Type Thermostat

Intertype Corporation has adopted a new bulb-type thermostat for electric metal pot heat control. The new thermostat makes possible the elimination of the resistor coil, blow-out coil and relay switch mechanism used in the temperature controlling and heating equipment in the older equipment. The control apparatus for cutting off or supplying current to the pot heating elements is transferred to the thermostat which is mounted on the pot cover shown in the diagram.

A simple pendulum switch (not shown in the diagram) throws the current off or on for the pot heating elements as governed by the expansion or contraction of a bellows *H* at the upper end of a tube connected to a bulb H' which is immersed directly in the molten metal in the crucible. The bulb-bellows-tube device is filled with a liquid which contracts or expands sensitively within a few degrees of metal temperature changes. The metallic bellows *H* in the thermostat is of the accordion type (approximately the diameter of one's finger) and working against the switch through a lever connection, throws the switch pendulum off or on with a snap action.

The temperature of the metal in the pot may be varied by turning adjusting screw *G*. An indicator moves in front of a scale mounted on the thermostat. Adjusting the indicator from one number on the scale to another changes the metal temperature from 8 to 10 deg. The total range of the thermostat is from 475 deg. to 575 deg. F.

The thermostat and the pot jacket cover may be removed if necessary from the pot while the metal in the crucible is frozen. To accomplish this, screw *B* is loosened and the thermostat cover is removed. Next, nut *E* and two screws are removed, after which the thermostat and bracket can be moved to disengage bellows *H* from flange *D*. The thermostat may now be lifted out of the way to permit removal of the pot cover without disturbing the position of bulb *H'* in the metal.

The thermostat is supplied for use with 110-220 a.c. or d.c. The panel box for the new thermostat contains the rheostat for separate mouthpiece heating element control, a line switch, fuse block and terminal block. However, in the case of d.c., a capacitor is installed in the panel box.

P-Double-E File No. 1G.

Continental Color Coordinates

The Continental Color Corporation, Cleveland, has completed negotiations for shifting its plant to Cincinnati, where manufacturing operations will be carried on at the Ault & Wiborg Corporation factory. Sales offices will remain in Cleveland, and all merchandising efforts will be directed from there. The Continental process is being used by container manufacturers to decorate jute, chipboard, kraft, and other papers. The method employs formulations which make it possible to achieve unusual color effects on ordinary liner board.

Equipment Sales

Recent Intertype Sales

Intertypes have been ordered recently by the Mercury Menu Service, Philadelphia, Pa.; Joseph F. Rae, San Francisco, Cal.; Franklin Yaeger, Columbus, O.; General Composition Co., Boston, Mass.; *Dispatch-Herald*, Erie, Pa.; Lorain (O.) Journal; Perry Printing Co., Flint, Mich.; James M. Shanley Co., San Francisco, Cal.; Hammond (Ind.) *Times;* Dallas (Tex.) *News and Journal;* Aurora (Ill.) *Beacon-News;* John Crawford Park, Pittsburgh, Pa.; Lithuanian Alliance of America, New York, N. Y.; Constitution Company, Lawton, Okla.; Mansfield (O.) *Journal;* Ravenna (O.) *Record;* Holst Printing Co., Cedar Falls, Iowa; *Empire Press*, Newark, N. J.; Board of Education, Menasha, Wis.; *Press-Record*, Granite City, Ill.; Joseph G. Sawtelle, Boston, Mass.; Advertiser Printing Co., Massena, N. Y.; Freeman Publishing Co., Kingston, N. Y.; Hildreth & Rogers Co., Lawrence, Mass.; York Composition Co., York, Pa.; Adams Press, Lexington, Mass.; Unity School of Christianity, Kansas City, Mo.; Springhill (La.) *News;* Interstate Typesetting Co., Kansas City, Mo.; *Daily Times*, Martins Ferry, O.; *Caledonian-Record*, St. Johnsbury, Vt.; Signal Printing Co., New York, N. Y.; Allied Typographers, Inc., New York, N. Y.; Carter-Hubbard Publishing Co., Inc., North Wilkesboro, N. C.; Northwest Publications, St. Paul, Minn.; Trade Linotypers, New York City; Springfield (O.)Newspapers, Inc.; Franklin Typesetting Co., Los Angeles, Cal.; Milton G. Ray, Los Angeles, Cal.; Brenner Paper Products, Inc., New York City.

GE Orders

Orders received by General Electric Company in the first quarter of 1938 amounted to $65,376,400, compared with $105,747,030 for the corresponding period in 1937, a decrease of 38 per cent, President Gerard Swope announced recently.

A dividend of 30 cents a share for the first quarter was payable on April 25 to 204,980 stockholders, a record high number, compared with 40 cents a share paid to 193,364 stockholders in April last year.

Webendorfer Installations

Recent Webendorfer installations of offset equipment in various parts of the country are as follows:

New York, N. Y.—Stanger Shoe Illustrations, 101 West 31st Street, 17 by 22 Webendorfer offset press. Victor O. Kubes, 71 West 45th Street, second 17 by 22 Webendorfer offset press. Progressive Offset Company, 106 Fulton Street, 17 by 22 Webendorfer offset press. Academy Photo Offset Company, 36 West 15th Street, second Webendorfer 17 by 22 offset press. Dart Press, 117 West 27th Street, 17 by 22 Webendorfer offset press.

Philadelphia—Brownell Photo-Lithograph Co., 31 Arch Street, 17 by 22 Webendorfer offset press.

Chicago—Redson-Rice Corporation, 111 N. Wacker Drive, third Webendorfer press 17 by 22. J. A. Burgess & Co., 173 W. Madison St., 17 by 22 Webendorfer offset press. Hans Gugler, Aurora, Ill., has installed a Webendorfer 22 by 29 offset press.

Ohio—Anchor Offset Co., 1549 Superior Ave., Cleveland, Webendorfer offset press. Edwards & Franklin Co., Cleveland, just installed the second Webendorfer. Westerman Print Co., Cincinnati, just recently installed the third Webendorfer offset press.

Newspapers Install Ludlows

Ludlows have been installed recently by the Wilkes-Barre (Pa.) *Evening News;* Durham (N. C.) *Herald and Sun;* Johnstown (Pa.) *Tribune;* Glen Falls (N. Y.) *Post-Star and Times;* South Kent County *News*, Grand Rapids, Mich.; Oxford (Pa.) *News;* Bisbee (Ariz.) *Daily Review;* and by the Newark (O.) *Daily News*.

Two New Hoe Presses

Meredith Publishing Company, Des Moines, Ia., has installed its second Hoe 64-page Super-Production Magazine Press. The first press was shipped a few weeks before. Both presses are equipped with right-angle Hoe Super-Production Folders. Anti-friction bearings throughout.

Provision has been made for printing an extra color on both presses. One is equipped with four color cylinders; the other press has two. With an increase in the use of color, it will be possible to add other color cylinders at any time in the future. The two presses are arranged so that a single web may be run through both decks whenever four-color printing is required. The presses will be operated chiefly to print and fold the monthly publication, *Better Homes and Gardens*.

Recent Linotype Installations

Linotypes have been installed recently by the Shreveport (La.) *Journal;* Herald-Mail Company, Inc., Hagerstown, Md.; Rhinelander (Wis.) *Daily News;* Commonwealth Press, Inc., Bradenton, Fla.; News-Journal Company, Wilmington, Del.; Cuero (Texas) *Record;* United Printing Services, Inc., New Haven, Conn.; Hughson (Calif.) *Herald;* Nu-Art Printers, Milwaukee, Wis.; *Christian Science Monitor*, Boston; Holloway & Taylor, Nashville, Tenn.; *New Era and Melrose Park Times*, Maywood Ill.; McKeesport (Pa.) *News;* Enid (Okla.) *Morning News* and *Daily Eagle;* Tuskegee Institute, Tuskegee, Ala.; Smithville (Tenn.) *Review;* Conde Nast Publications, Inc., Greenwich, Conn.; J. Curtis Blue, Inc., Brooklyn, N. Y.; *Democrat and the Capital;* Sedalia, Mo.; Columbia (S. C.) *State;* Lineville (Ala.) *Tribune;* Frank P. Bennett and Company, Inc., Boston; M & L Typesetting and Electrotyping Company, Chicago; *Masonic Home News*, Guthrie, Okla.; Clarksville (Tenn.) *Star;* Printers Linotype Service, Chicago; Greenville (Ala.) *Advocate;* Jersey City Printing Company, Jersey City, N. J.; *Capital Times*, Madison, Wis.; *Spokesman-Review* and *Chronicle*, Spokane, Wash.; Canton (Ill.) *Daily Ledger;* Birmingham (Ala.) *News and Age-Herald;* Lawrence *Daily Eagle* and *Evening Tribune*, Lawrence, Mass.; Lincoln (Ill.) *Evening Courier; Sunday School Times*, Philadelphia, Pa.; United States Navy, Washington, D. C.; Bickley Printing Company, Pasadena (Calif.); *Weekly Messenger*, St. Martinville, La.; *New Era*, Albany, Ky.; Franklin Printing Company, Newport News, Va.; Dallas *Morning News and the Evening Journal*, Dallas, Texas; *Lincoln County Times*, Brookhaven, Miss.; Cincinnati (O.) *Times-Star;* Bryan (Texas) *News;* Thormod Monsen & Sons, Inc., Chicago; Oakland Type Foundry, Oakland, Calif.

Newspapers Install Elrods

Elrod lead, slug, rule and base casters have been installed recently by the Pittsburgh *Press;* Flint (Mich.) *Journal;* Charleston (S. C.) *Evening Post;* Wilmington (N. C.) *Star-News;* Marion (O.) *Star;* Tucson (Ariz.) *Citizen;* Johnstown (Pa.) *Tribune;* Zanesville (O.) *Times Recorder and Signal;* Denver (Colo.) *Catholic Register;* Bisbee (Ariz.) *Daily Review;* Newark (O.) *Daily News;* Clarksdale (Miss.) *Daily Register;* Alliance (Neb.) *Times-Herald;* Easton (Pa.) *Daily-Express;* and by the Marshalltown (Iowa) *Times-Republican*.

Rolup On Copper

By ADOLPH MONTAN*

THE new high-speed printing press and wet printing have made everyone connected with the printing and engraving industry depth conscious. Through experiments we have gained some knowledge and experience about what might be called deep halftones.. We first tried by getting low or open negatives, so that a longer flat bite would give the required depth, but found that it not only meant more work staging and re-etching, but on close examination of the finished plate, found a connected highlight dot on the print. No matter how deep it was etched, the ridge connecting the dots would still be there. After a long run on the press the cuts would begin to pick up dirt with a tendency to print "dirty" in the highlights and middletones.

During the last four months, we have spent considerable time working with the Scherer Rolup system. Although this has been in use successfully in etching newspaper halftones for sometime, it has not been employed in fine screen copper etching until recently. From the experience we gained, it promises to be just as successful in fine screen etching as on newspaper or coarse screen work. It gave us the advantage of having the negatives on the high side, which gives the photographer a better chance and more latitude on different subjects because the Rolup does give all the depth required.

Some modification was found necessary when the system was put to work on fine screen copper, due to the variety of tone values to be brought out and preserved, and it was necessary to refine operations somewhat. As a result of this different treatment, the dot usually produced by the Rolup on zinc changed somewhat on copper. Where on zinc it has a decided cone shape, on copper we get a much straighter side. The dot still retains a conal character, which helps to bring out many tone values not possible before. We also worked it successfully on three and four-color process plates. The additional depth gained has been up to 50 per cent in highlights and middletones. However, one thing should be stressed. It is not only the ink and roller that is necessary, but most important is the skill and knowledge of the workman using it. Because of the change in dot structure, we must know what to look for. The desired result must be gained by experience, preferably working with someone familiar with the operation of the Rolup system.

*Copper Etcher, Minnesota Engraving and Colorplate Company. Minneapolis, Minn.

[1]*Editor's Note*—Ernest Scherer, developer of the Rolup Process, states that the average depth on 120 line screen in a Rolup plate is 0.0035 in. in the highlights and middletones—an increase in average depth of 33⅓ to 40%.

Millions of dollars' worth

of talent, equipment, and skill ... all devoted to giving her an attractive, colorful magazine

THE housewife reading a magazine devoted exclusively to her interests . . . her husband reading a national weekly or monthly publication . . . both are the object of an amazing investment of time, energy, and money. Collaborating to please them are the world's most gifted writers and illustrators . . . a whole army of skilled technicians in the various graphic arts industries . . . and the most efficient mechanical equipment for quality printing in volume that has yet been produced.

Cottrell is proud to have had a large part in magazine and color press development since the earliest days of modern magazine publishing. In fact, the world's leading magazines have grown up on Cottrell presses. Most significant, too, is the fact that these leading publications still look to Cottrell for the latest magazine press developments—as for instance the five-color press shown on this page and recent Cottrell constructions of six-color rotogravure equipment.

For modern, economical, profitable magazine printing, standardize on Cottrell presses.

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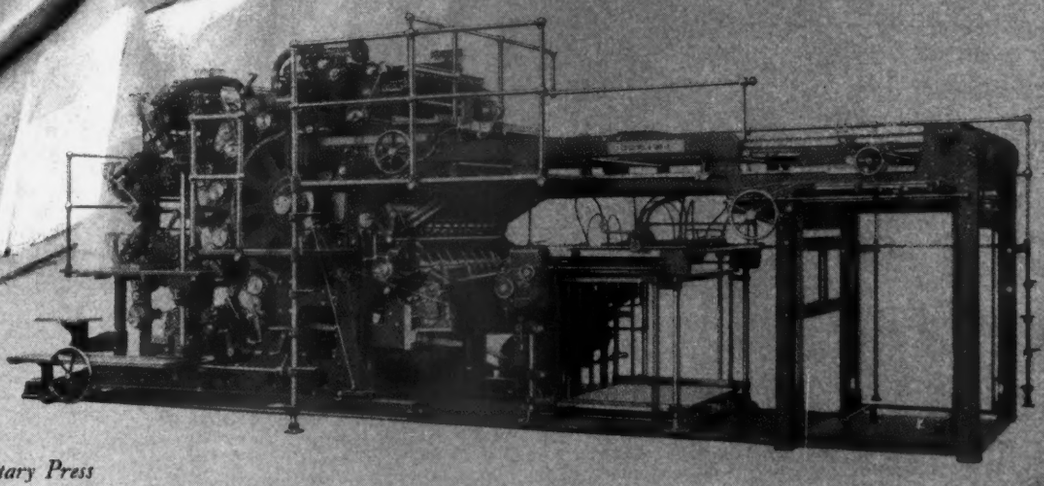

Typical Cottrell Five-Color Rotary Press

COTTRELL

BREAKDOWN OF TYPICAL ISSUE OF *FORTUNE*

To the printing plant executive, this breakdown will reveal in a better manner than could be conveyed by wordy explanation the press operations involved in producing a typical issue of *Fortune*.

ANTIQUE STOCK

Form	*Pages*	*Printed*	*Sheet Size (both sides)*	*Folded as 4 pg.*	*8 pg.*	*16 pg.*
3-COLOR GRAVURE AND 1-COLOR LETTERPRESS						
A	4	Work & Turn	8 pgs.	1	.	.
B	4	Sheetwise	8 pgs.	.	1	.
C	4	Sheetwise	8 pgs.	.	1	.
D	4	Sheetwise	8 pgs.	2	.	.
1-COLOR GRAVURE AND 1-COLOR LETTERPRESS						
B	4	Sheetwise	8 pgs.	.	*	.
C	4	Sheetwise	8 pgs.	.	*	.
D	4	Sheetwise	8 pgs.	*	.	.
E	8	Work & Turn	16 pgs.	.	1	.
F	8	Work & Turn	16 pgs.	.	1	.
G	8	Work & Turn	16 pgs.	2	.	.
4-COLOR OFFSET LITHOGRAPHY						
H	2	3-up Sheetwise	12 pgs.	1	.	.
Cover 2 & 3	2	4-up Sheetwise	16 pgs.	1	.	.
Cover 4	2	4-up Sheetwise	16 pgs.	*	.	.
1-COLOR OFFSET LITHOGRAPHY						
H	2	3-up Sheetwise	12 pgs.	*	.	.
I	4	2-up Work & Turn	16 pgs.	1	.	.
4-COLOR LETTERPRESS						
Cover I	2	4-up Sheetwise	16 pgs.	*	.	.

COATED STOCK

5-COLOR LETTERPRESS						
J	4	2-up Work & Turn	16 pgs.	1	.	.
4-COLOR LETTERPRESS						
K	12	Work & Turn	24 pgs.	3	.	.
L	8	Work & Turn	16 pgs.	2	.	.
2-COLOR LETTERPRESS						
M	4	2-up Work & Turn	16 pgs.	1	.	.
1-COLOR LETTERPRESS						
N	40	Sheetwise	40 pgs.	.	1	2
O	40	Sheetwise	40 pgs.	.	1	2
P	32	Sheetwise	32 pgs.	.	2	1
Q	12	Work & Turn	24 pgs.	1	1	
		TOTALS		16	9	5

*Previously counted.

Fortune

(Continued from Page 15)

Kelly flat-bed (used to score the cover) to a 48 in. by 73½ in. U.P.M. which can print forty pages at one time. Letterpress type and rules are imprinted on the gravure sheets by six Miehle single flat-bed presses.

Most of the black and white letterpress on coated paper is done by two 32-page and two 40-page sheet-fed U.P.M.-Kidder rotary presses whose hourly net production is probably less than 2000 impressions. Any remaining odd eight or twelve page coated forms are printed on Miehle single flat-beds.

The letterpress process color work is also done by both flat-bed and rotary presses. Two-color wet printing is used: Each sheet receives its yellow and red impressions in quick succession from a two-color press, but before receiving the blue and black impressions from a second two-color press, a 12-hour drying period is allowed. For most issues, two eight-page forms are printed by two pairs of Miehle two-color flat-beds, and a twelve page form is printed by a pair of Harris two-color rotaries.

BINDING "FORTUNE"

The variety of makeup is effected primarily by a wide distribution of different kinds of printing. An average issue of 216 pages consists of eight signatures into each of which about three separate folded pieces, usually printed by at least two different processes, have been hand-inserted. (Thus, for the minimum 1937 print order of 141,500 copies, over 4,000,000 separate folded pieces had to be handled by the bindery.) After inserting, the signatures are gathered on a Sheridan machine and then Smyth-sewn just like a book, so that each copy may be opened flat.

The range and variety of bindery equipment to fold, assemble and bind *Fortune* is interesting. The following equipment is available for this purpose in the bindery of the printer: Two Dexter Multifolds with Combing Cross Feeders; three Dexter Jobbers with Suction Cross Feeders; one Dexter Chopper with Suction Cross Feeder; one each Cleveland Models A, B and E with Continuous Suction Feeder; two 75 in., one 55 in., one 44 in. and one 40 in. Seybold Trimmer; one 16-pocket Sheridan Gatherer; fifteen No. 4 and one No. 12 Smyth Sewing Machines; one Sheridan Binder; one Seybold Tumbler Trimmer.

For nearly six years *Fortune* has found the services of a single printing company* adequate for all its printing and binding requirements. Nevertheless, the fact remains that few printers offer the combination of all three printing processes. This may be partly accounted for by the comparative newness of gravure and offset. However, as these processes are further developed and their comparative merits better understood, their availability may, perhaps, be extended to even the most unpretentious printing job. It is certain that in combination they offer a variety that could not otherwise have been achieved.

**The Jersey City Printing Company does the composition, gravure and offset plate-making, printing, binding, packing and shipping of each issue of* Fortune. *Electrotyping is sub-contracted by the printer. The Publisher supplies all photo-engravings.*

Books Received

PAR For Printers

IN commercial printing plants, conscientious production and mechanical executives who are not familiar with it, may wonder how *PAR For Printers* fits into practical use in connection with their supervision of production.

Before investigating *PAR For Printers*, the first reaction might be "Ha, just another mythical printing plant set up on paper to tell me what I ought to do," or "What is this, another collection of printing plant production *averages*?"

No production or mechanical executive likes to think the work flow is passing through his plant in any other than the shortest possible route in the least time; he also likes to think all work is being executed with minimum motion and effort upon the part of those doing the work. The difficulty is that most production executives are not in a position to provide accurate standards upon which to base estimates or to check back on production because their experience has taken place in one or in just several printing plants in using a limited variety of machinery. On the other hand, most production men cooperate wholeheartedly in production matters when they understand why they should, and if the standards which have been set up (and which may be at wide variance with their own judgment) are authoritative.

Even if not truly efficient at it in every instance, management is cost-minded because the business is based on time. This calls for constant checking and rechecking of operations to see that production is in consonance with estimates. Now, who is to provide the standards against which to check the estimates and the production and are those standards really reliable?

PAR For Printers is a book of standards. It is based on original studies, research work and formulas developed by Kenneth G. McKiernan and used in many successful printing plants over a several year period. It is presented in loose-leaf binder form. Before we mention what's in the book, we'd like to quote from a promotional piece issued by Production Standards Corporation, as follows: "PAR is a reference . . . it is a reliable standard of measurement and comparison. PAR is not a system . . . There's nothing to study—you just familiarize yourself with what it contains."

(Continued on Page 49)

"Fortune's *fortunates*"

Enviable indeed is "Fortune's" position in the general monthly magazine field. Topping the list in total annual linage for the past five years has been no mean achievement; and perhaps, therefore, some finger pointing is forgivable for those fortunate enough to have contributed to "Fortune."

- Eagle Printing Ink Company has supplied inks for many of "Fortune's" letterpress covers, editorial and advertising forms ever since the first issue, February 1930.
- Send for the form illustrating results obtained by Jersey City Printing Company with Eagle printing inks.

EAGLE PRINTING INK CO.

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Getting Bugs Out of New Newspaper Press

Title of paper at P.N.P.A. Mechanical Conference—Other interesting production subjects discussed

By STAFF WRITER

DISCUSSIONS about the utility and economy of photo-engraving plants for smaller newspapers, composing room costs, a variety of metal problems, the printing of 100-line screen cuts on rotary presses and the prediction that it would not be long before newsprint is made from straw, featured the First Annual Pennsylvania Newspaper Publishers Association Mechanical Conference at the Penn-Harris Hotel, Harrisburg, Monday and Tuesday, April 4 and 5. The conference was attended by 151 persons.

A. W. McDowell, Sharon *Herald*, president of the P.N.P.A., opened the conference with a word of welcome. The sessions were in charge of Howard J. Lamade, Williamsport *Grit*, Chairman of the P.N.P.A. Mechanical Committee. W. N. Hardy, P.N.P.A. Manager, was very active in helping organize the meeting.

Newsprint From Straw

F. W. Hochstetter, Hochstetter Laboratories, Pittsburgh, created something of a sensation when he reported that within a few months he would be able to produce newsprint from straw for daily tests on Pennsylvania newspapers. He said this print could be made to sell at a profit for from $32 to $35 a ton and could be manufactured nearest to the source of demand, thus keeping freight rates down.

Admitting that some persons would think his plan visionary, Mr. Hochstetter said he would prove that newsprint could be made from straw by setting up at least one plant in or near Pennsylvania and supplying one or more newspapers with enough print to run off regular editions regularly for some little time, so that there could be a fair test and so that other publishers could visit the plant and see what was being done. He said that no attempt would be made to sell stock in this proposition because he is well financed.

Mr. Hochstetter was told that all he had to do was make the newsprint and prove that it was suitable for newspaper work in order to make a success of the venture.

The first session on Monday was devoted to cameras and photo-engraving and was in charge of Don Miller of the Allentown *Morning Call*. The Monday evening session was a lively affair, devoted to the stereotype department. Much interest was developed from the floor on metal problems. N. DeWitt Ray, of the Indiana *Gazette*, presided.

At the composing room session, Tuesday morning, D. Philip Young, Mechanical Superintendent of the York *Dispatch*, presided, and kept things moving swiftly. Mr. Lamade presided at the pressroom session Tuesday afternoon.

One-Man Engraving Plants

In direct contrast to the testimony of several operators of one-man photo-engraving plants at the Southern Newspaper Mechanical Conference last September, it was the opinion of Robert W. Eyerly of the Bloomsburg *Morning Press*, that the equipment of a one-man engraving plant is only a waste of money and that, sooner or later, the publisher will find it necessary to replace it. He based his opinion on experience over a three-year period during which time after investing $600 during the first year in the original plant and an additional $400 for necessary supplies and equipment, he found he had a total investment of between $5500 and $6000.

Concluding his remarks, Mr. Eyerly stated: "While I believe a publisher can buy a limited or normal amount of cuts cheaper from a commercial plant than he can produce them, a small newspaper's own engraving department can only justify itself by its speed, convenience, special features, and added interest in that paper through frequent use of local pictures.

Joseph R. Cubbison, photo-engraving superintendent of the Sharon *Herald*, caused quite a little discussion when he said he had discovered accidentally that he could get good results from a 100-line screen cut. N. DeWitt Ray of the Indiana *Gazette* reported that he had a similar experience.

Monday Evening

N. DeWitt Ray, Indiana *Evening Gazette*, presided over the Monday evening session which was devoted to Stereotype problems. M. C. Rhinehart of the Pittsburgh White Metal Company, spoke on "Metallurgy of Type Metals." Mr. Rhinehart presented an elemental explanation of composing machine and stereotype metals. "For maximum efficiency," said he, "in the composing and stereotype rooms it is best to have metals of unvarying properties. The machines and casting apparatus may then be adjusted for the particular metal in use with assurance that the properties of the metal will always be the same." Summarizing his talk, he said: "Be sure of the quality of the type metal bought for your plant. See that the metal is not overheated upon remelting. Keep zinc and copper away. Compensate for the elements lost in dross as the elements are removed. If toning-up is necessary, do it slowly, and under frequent analysis."

"Honest-To-God" Molder

William F. Grenier, New England Newspaper Supply Co., discussed "Newspaper Stereotype and Pressroom Supplies and Their Usage." In his opinion, the most important elements in newspaper making are stereotyping and molding conditions. After discussing development of the cork molder, he recommended a cork and a fibre molding board for best rolling-in results. Because of the grinding effect produced by the mat roller when molding with iron boards, he is opposed to their use. They have a tendency to suck out the impression. If metal must be used, he advised zinc. "It (leather) is the only honest-to-God molder for anyone who can pay $12 per page, but it can be used only once and each piece costs $12."

Tuesday Morning

The Tuesday morning meeting was presided over by D. Philip Young of the York *Dispatch*. A paper, "Current Problems in the Composing Room," prepared by C. H. Griffith, was read by P. J. Burton of the Mergenthaler Linotype Co. Mr. Griffith was unable to be present because of illness.

In the matter of copy control, Mr. Griffith stated: "Your advertising copy is more difficult to control than news copy because the advertiser is subject to no reasonable degree of control or restraint and must be handled diplomatically."

He suggested that many newspapers have solved the problem of delay in producing advertising copy where several departments are concerned in its reproduction by photostating. The print and the original are sent to the art department and the composing room so the departments can work upon the ad simultaneously.

Among other production suggestions, Mr. Griffith advocated the use of thinner spacebands and 4 pt. column rule as a means of helping to conserve newsprint consumption.

As a means of securing 4 pt. column rule optical separation of type columns with the use of 3 pt. column rule, he suggested setting in vise jaws on composing machines a half-point to cast a slight shoulder on each end of the slug.

That the Teletypsetter still is a subject of prime interest to newspaper executives is evidenced by the appearance of L. R. Cook, Teletypsetter Engineer, Chicago, who explained the workings of automatic operation of line-casting machines.

Joseph Breslin, Mechanical Superintendent of the Bethlehem *Globe-Times*, enumerated the particular items which had been adopted for the *Globe-Times* composing room. Among these he mentioned specifically the installation of Curtis Indirect Lighting Units. Before installation of the Curtis units from 3200 to 3600 k.w. were used, but after putting in two 10 ft. units approximately 1600 k.w. are consumed which give more and better light. To conserve electricity, a bell rings when the demand is high at which time all unnecessary current is shut off. Pigs for the composing machines are cast at night to keep low the electric demand.

Tuesday Afternoon

Howard J. Lamade of the Williamsport *Grit*, presided at the closing (pressroom) session.

"Getting the Bugs Out of a New Press," was admirably handled by Harry W. Sherman, Mechanical Superintendent of the Allentown *Call* and *Chronicle-News*. The subject, previous to the first P.N.P.A. mechanical meeting, was the subject of considerable speculation, since manufacturers and many experienced pressroom executives assert most forcibly that with modern manufacturing methods, there is no such thing as a "bug" in a new press. As Mr. Sherman continued with his discussion it developed that the "bugs" existed in the minds of Mr. Sherman and his associates before the press had been built. The problem was to house it suitably and provide all necessary arrangements and equipment according to the needs of the *Call* and *Chronicle-News*. His description of the analysis and planning for suitable equipment in the new building showed that Mr. Sherman and his associates studied their problems thoroughly.

He-Man's Problem

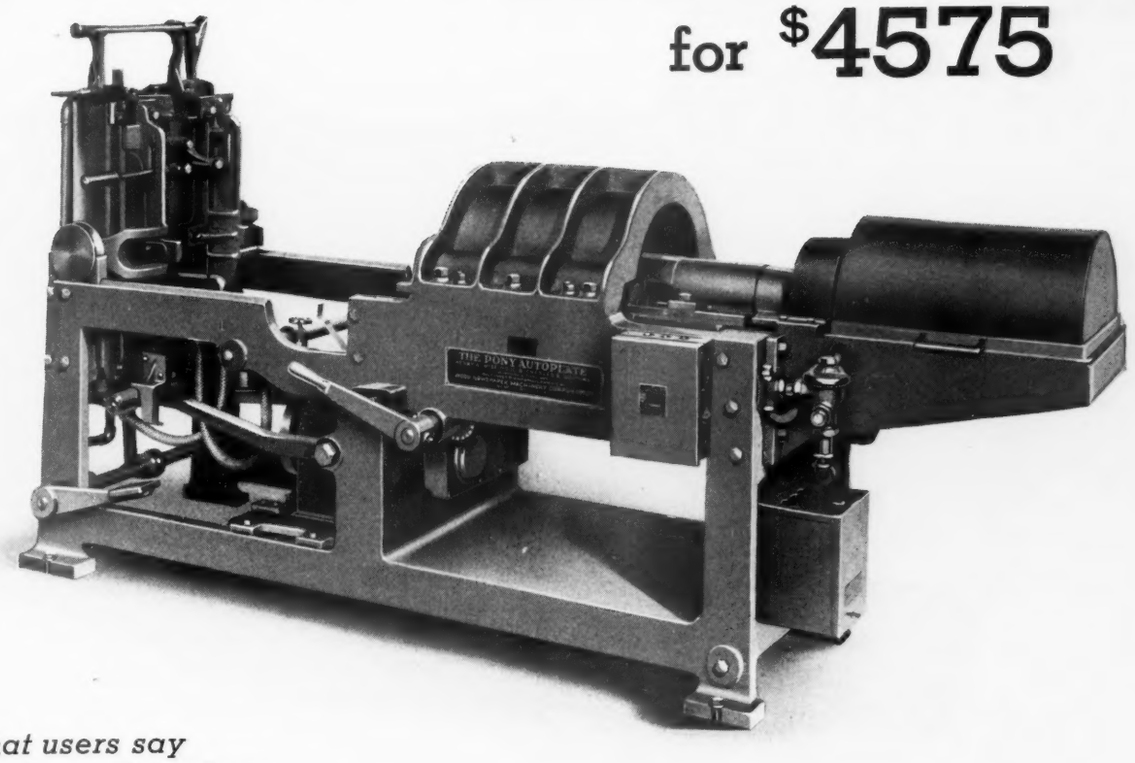
Casper Kean, pressroom foreman of the Ardmore *Main Line Daily Times*, discussed "The Problems of a Tubular Pressman." He intimated that the purchase of equipment is a he-man's job—that the pressman should be permitted to do his own buying. He stated he was very fortunate in being able to buy just what products he thought work best for both the stereotype and pressroom departments. "Fortunate," continued Mr. Kean, "because I know for a fact that in one instance where the front office does all the buying, the purchasing agent is a woman. She knows as much about the working qualities of the products used in the mechanical departments as I know about the amount of stretch in the elastic in a pair of silk panties."

Mr. Kean operates a tubular press. To reduce offset, he washes the press blankets once a month with a damp cloth, following which he applies a coat of banana oil. The banana oil gives the blankets a slick surface which has much less affinity for ink.

First Meeting

The first Southern California Newspaper Mechanical Conference will be held June 11 and 12 at the Hollywood Knickerbocker Hotel, Hollywood. Mechanical Superintendent L. L. McFall of the San Bernardino *Sun-Telegram* is president.

A modern mechanized Foundry for $4575



Read what users say about the Pony Autoplate:

"Our modern mechanical equipment would not have been complete or fully efficient without a new Pony Autoplate. This provides the complement to a pressroom equipment of the highest quality."

"The Pony Autoplate has been of great assistance in the improvement of the appearance of our newspaper."

"The installation of this machine has largely solved the production problem in our stereotyping department. It has minimized the hard work formerly required in lifting plates from one piece of equipment to another, and has enabled us to turn out our editions on scheduled time. We wish to congratulate the Wood Newspaper Machinery Corporation on the perfection of this fine piece of stereotyping equipment, which we believe ranks among the first in durability and efficiency in the printing industry."

"Our Pony Autoplate has served us well, proof of which lies in the fact that we were awarded first prize for best presswork among our state's newspapers in the 20,000 to 60,000 population class in 1937."

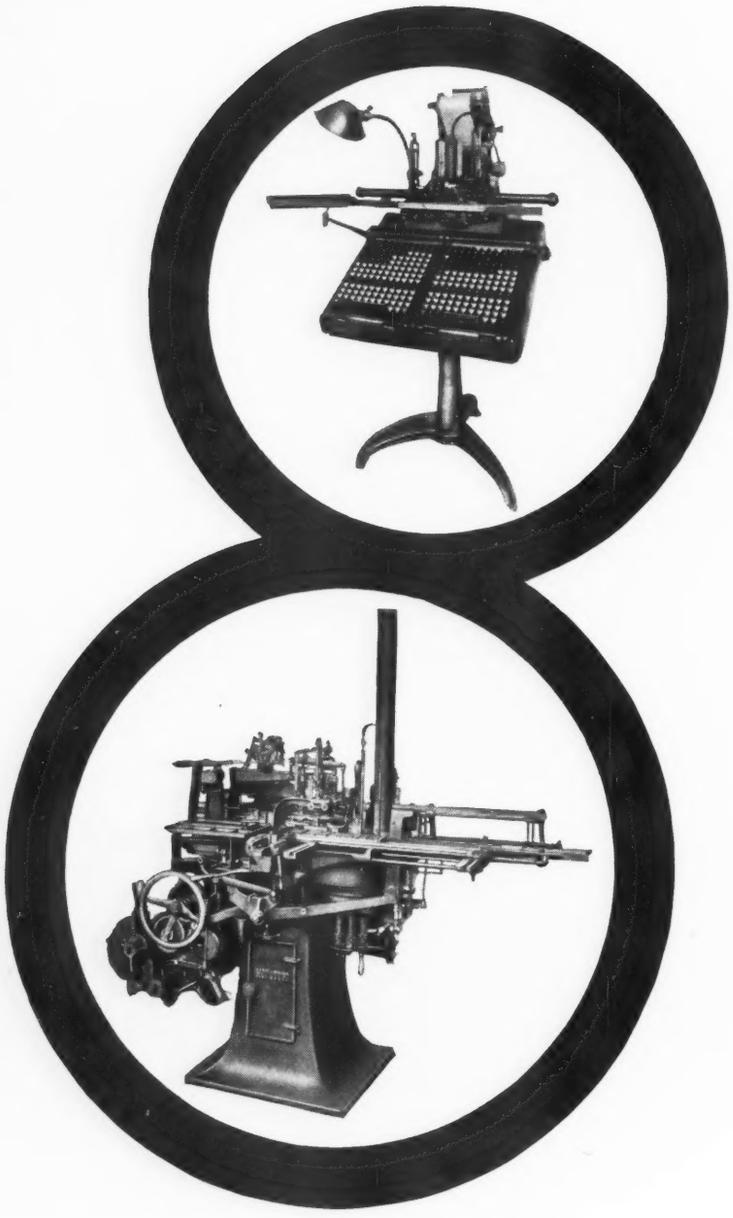
Any daily newspaper can now afford the speed and economy of mechanized foundry operation in place of manual operation—with better stereotyping and better presswork. This major improvement in newspaper production is now obtainable at a price substantially lower than in the past.

With the Standard Pony Autoplate, you get better printing plates and a better looking newspaper, at greater speed and with less effort on the part of your foundry workers. As one user puts it, the Pony is "almost human in its cycle of operations—casting, removing tail, shaping the cast exactly to printing curvature while it is plastic, shaving the plate to an accurate and uniform thickness, performing operations necessary to finishing the plate, and bathing and delivering it ready for the press."

Recent comments from Pony Autoplate users, from which excerpts are reproduced on this page, are good reading for any newspaper executive who is handicapped by hand-box stereotyping. Photostatic reproductions of these letters will be furnished on request.

Wood Newspaper Machinery Corporation
Plainfield, New Jersey **New York Office: 501 Fifth Ave.**

GOOD REASONS . . .



FULL INFORMATION ON REQUEST

Versatility . . . . . Straig
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LAN

Composed in Monotype 20th Century Family

. . . . You can profitably operate A MONOTYPE TYPESETTING MACHINE

Straight Matter, Price Lists, Dictionaries, Mathematical Work, Plate Gothics, Tabular Work, Rule-and-Figure Work, Ruled Forms, etc. A variety of work not equalled by any other typesetting machine.

Machine typesetting in sizes from 4 to 18 point, set in measures up to 60 picas wide. Both wide and narrow measures composed with equal facility.

The fastest method of typesetting. Human hands have never operated the Monotype Keyboard to its maximum production capacity.

The Monotype matrix case (magazine) has room for 225 characters and spaces. Up to seven complete alphabets for continuous composition.

New type for every job. Reduces make-ready time, makes better electros and reproductions, and prints clearer and sharper than any other type.

More than four hundred type faces to do all kinds and classes of work, in sizes from 4 to 36 point, for both machine typesetting and hand work.

The Monotype Typesetting Machine can be equipped to make type for hand composition in all sizes from 4 point to 36 point, inclusive.

The same Monotype makes Rules, Leads and Slugs from 2 to 12 point, automatically cut to labor-saving lengths or delivered in strips for cutting later.

LANSTON MONOTYPE MACHINE COMPANY

Monotype Building, 24th at Locust Street, Philadelphia, Penna.

Method of Molding

Continuation of discussion on importance of insulation and temperature control in the making of curved stereotype newspaper plates.

By DRY MAT BILL

IN a previous article I discussed the importance of insulation and temperature control in the casting box with respect to curved stereotype newspaper plates. To further stress the importance of insulation and temperature control, it is suggested (if you have both the time and inclination) that you conduct the following experiment. Take two mats of any brand you like: Two Morley, two Certified, two Burgess or two Wood mats and mold the two mats in the following manner:

Mold one mat with a highly rubberized resilient creeper about 0.025 in. thick, Congoleum cork and a woven felt; then mold the second mat of the same brand with an extremely hard cork and steel top. Use a sufficient amount of pressure on the mold until you reach the same level in the space depth as you have in the other mold.

The difference in the appearance of the cast you make on these two mats will probably amaze you, that is, if you are still capable of becoming amazed at anything that takes place in the printing of a newspaper after being in the business a number of years.

The natural question is: How can the method of molding affect the casting box temperature and the direction of solidification?

As I see it, the answer is as follows: With the highly soft cushion we changed the insulating properties of the mold very little. With the extremely hard cushion and excessive pressure, however, we changed the insulating properties to such a degree that the mold became highly conductive to heat.

Assuming that we are operating the casting box at a certain given temperature, the highly conductive mold will change both the time ratio and the direction of solidification, as it will release the heat more rapidly than the less conductive mold. In my opinion, this is just one of the reasons for the many hundred of different types of molding cushions in use today.

Usually, the operator will begin a series of experiments with different types and resiliencies of molding cushions until suddenly he hits upon one that he considers a well balanced cushion. It gives him a mold from which he is apparently able to cast plates which show very little porosity and little or no indication of heat streaks. To him this becomes the ideal cushion. In a sense, he is correct, but if you analyze what took place you will quite likely arrive at the conclusion that he stumbled upon the cushion which gave him just the proper density in the mold and which was compatible with his casting box temperature, water distribution and metal temperature. I do not wish to create the impression that I favor any particular type of molding cushion. I have used these mentioned here for illustrative purposes only.

In the very near future I hope to find the necessary time to present my idea of the whys and wherefores of molding cushions. In selecting a molding cushion we must not only take into consideration density, stretch and distortion but also the conditions that prevail in the pressroom. It seems to me I can faintly hear someone say, "What in h—l has the pressroom got to do with the molding machine?"

Iowa Conference

Mechanical executives expected from ten states to discuss newspaper production.

TWELVE years ago, a small group of Iowa composing room executives held its first conference. Since that first meeting the Iowa Composing Room Executives group has grown in numbers and the intent of the meetings has been broadened until all mechanical departments of the newspaper will be discussed at this year's meeting. The Iowa group has been expanded to include representation from ten states, Wisconsin, Minnesota, North and South Dakota, Nebraska, Colorado, Kansas, Missouri, Illinois and Iowa. Mechanical and production executives from all departments of the newspaper plant have been invited to attend the Iowa Daily Newspaper Mechanical Conference which will be held at Hotel Chieftain, Council Bluffs, Ia., Monday and Tuesday, May 16 and 17.

Ed Funk, Composing Room Superintendent of the Waterloo Daily *Courier*, is President of the Conference; Guy Chappell, Iowa *Press-Citizen*, is Vice President. Paul Kamler, Mechanical Superintendent, Clinton *Herald*, is Secretary-Treasurer.

PROGRAM

MONDAY, MAY 16

MORNING SESSION—9:00

Meeting Called to Order, President Ed C. Funk.

Address of Welcome, Robert O-Brien, Publisher of the Council Bluffs *Nonpareil*.

Response, President Ed. C. Funk.

"What Is New in Newspaper Mechanical Equipment and Methods." Mac Sinclair, Editor *Printing* EQUIPMENT *Engineer*, Cleveland, Ohio.

"Practical Problems of the Photo Engraver," Mr. Huntington, Superintendent Engraving, Council Bluffs *Nonpareil*.

"Interesting Highlights on the Home of the Council Bluffs *Nonpareil*," Mechanical Superintendent George Fouts.

AFTERNOON SESSION—2:00

"Advertising Typography," Douglas C. McMurtrie, Ludlow Typograph Company, Chicago.

"Announcements."

GROUP MEETINGS—MONDAY AFTERNOON

COMPOSING ROOM AND MACHINISTS

C. H. ("Tod") Bleuer—*Chairman*

"Establishment of Dispatch Rooms for Better Handling of Ad Copy.

"Results Obtained by the Installation of Late Model Typesetting Display Machines."

"Advantages of Makeup Tables."

"Experience of Those Using Klean-O-Mat Process for Cleaning Matrices and Magazines."

"Maintaining Cost Record for Machine Repairs."

"Maintenance Schedule for Care of Typesetting and Typecasting Machinery."

STEREOTYPE AND PRESSROOM

Guy Chappell—*Chairman*

"Merits of Different Types of Fuel for Melting Furnaces."

"Savings Resulting from Installation of Submerged Burner Furnaces." "Also Savings by Insulating Hood of Furnace." "Does anyone present shut off burner during noon hour?"

"Use of Combination Metal."

"Results Obtained from Using Finer Line Screen for Cuts."

"Advantages of Vacuum Casting Boxes."

TUESDAY, MAY 17

MORNING SESSION—9:00

"Co-ordination of Mechanical Department Activities, Leon A. Link, Scripps-Howard Newspapers.

"Demonstration of Portable Wirephoto Transmitter," R. R. Hill, Supervising Traffic Engineer, Associated Press Bureau, Des Moines.

"Problems and Hazards of Small Engraving Plants," W. W. Warfel, Chemco Photoproducts Company.

Open Discussion of Question Box Problems.

AFTERNOON SESSION—1:30

Open Discussion—"What Is New in Methods and Equipment."

General discussion of matters of importance before conference.

Selection of Next Conference City.

Election of Officers.

Good and Welfare of the Conference.

Adjournment.

Goss Press For Cuneo

Delivery of new press equipment for Cuneo Press, Inc., Chicago, has been completed by The Goss Printing Press Company, and erection work is progressing rapidly.

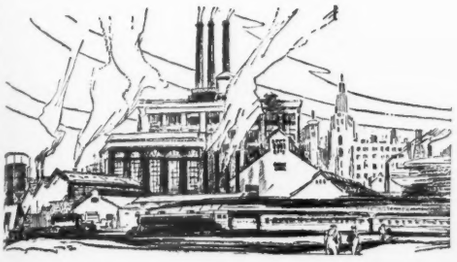
The installation includes a Goss 96-page Unit-Type Anti-Friction High-Speed Magazine Press with three form roller ink distribution, a pin point and gripper collecting jaw magazine folder with single delivery, and a Wood Junior Autopaster.

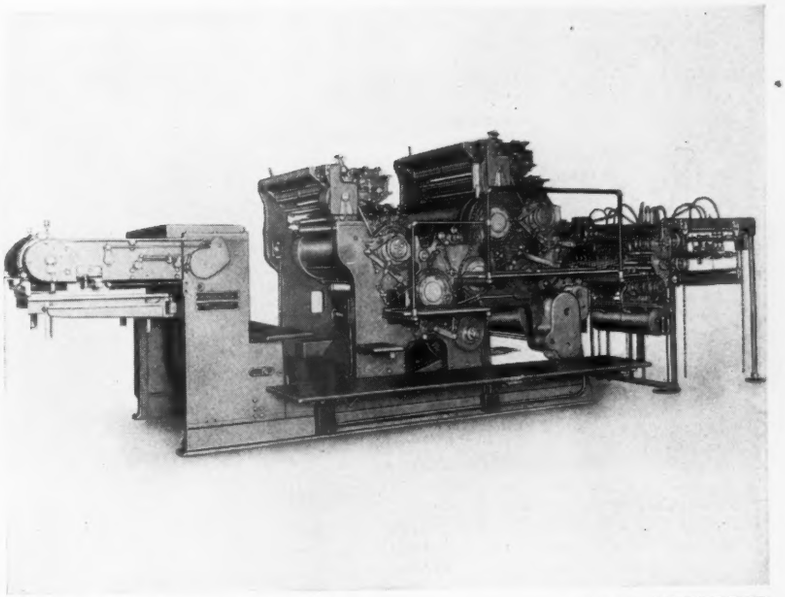
The press will deliver three different 32-page or six 16-page signatures. It has a running speed of 12,000 cylinder revolutions per hour and will be used for printing various pulp magazines.

The Right Bearing in the Right Place means

RIGHT PRINTING

● *There's a four-to-one chance that any newspaper or magazine you read is printed with the help of* SKF *Bearings.*





BUILT BY R. HOE & CO., INC. SKF-EQUIPPED

THE HIGH EFFICIENCY of modern presses which produce up to 65,000 thirty-two page newspapers an hour would be impossible without antifriction bearings at critical points.

The modern press, like any other up-to-date machine, depends on its bearings for continuous, dependable and economical operation.

That is particularly true of this Hoe Super-Offset Press. Because its cylinders are properly aligned by SKF Spherical Roller Bearings, it has many outstanding advantages.

Unusually accurate register is assured. The finest halftone dots are reproduced without distortion or filling up. Production climbs to the top. Operating costs slide to the bottom. And, last but not least, there is no bearing trouble.

It is, we take it, a tribute not only to Hoe's keen insight into bearing values but to the never-varying quality of the bearings that are produced by the worldwide organization of plants and men that IS SKF. 4095

SKF INDUSTRIES, INC., PHILA., PA.

SKF BALL AND ROLLER BEARINGS

Myers Advances

George Myers, well-known Ludlow representative in the Southern states, has been appointed Atlanta District Manager of the Ludlow Typograph Company. He succeeds L. C. Penry, who recently resigned to rejoin the Greensboro (N. C.) *News* as general superintendent.

Previously to joining the Ludlow organization some years ago, Mr. Myers had wide ex-

perience in every department of newspaper and commercial printing plants, including service as composing room foreman, superintendent and general manager of several plants. He is an experienced composing room engineer, and has assisted in reorganizing composing rooms for a number of metropolitan newspapers and commercial printing concerns.

He has been active in the Craftsmen's movement, attending regularly the national conventions, assisting in the organization of several local clubs, and speaking on varied technical subjects at Craftsmen's meetings.

Full Time With Stahi

J. H. (Jimmy) Brooks, for many years connected with the mechanical divisions of The *Oregonian*, Portland, Ore. and for the past several years Mechanical Superintendent and Production Manager of that publication, has resigned to enter into his own personal enterprises, particularly in connection with The Stahi Newspaper Supply Company, Inc., manufacturers of equipment for newspaper and commercial plants. Mr. Brooks, together with A. W. Cochran, now the President and Sales Manager of The Stahi Newspaper Supply Company; C. C. Baker, Vice President and

Works Manager, and Henry W. Dewey, Stereotype Engineer, founded The Stahi Newspaper Supply Company in 1924. Mr. Brooks has been this company's secretary and treasurer, and will continue in this capacity, also entering into the manufacture and sales divisions for the Pacific Coast and Western Canada.

Mr. Brooks was identified directly with Mr. Cochran, F. M. Youngs, and *The Oregonian* in the development and marketing of the Monocork press blanket, which was later taken over by the late Theodore T. Ellis and the New England Newspaper Supply Company, of Worcester, Mass.

Mr. Brooks has also been identified with many other developments in modern press machinery, and has been a member and actively engaged in the affairs of the International Printing Pressmen's and Assistants Union of North America for more than thirty years, for the past several years has been a trustee for the Pressman's Home, representing the newspaper industry, in which capacity he will continue.

CITY-COUNTY

Newark Evening News

CITY-COUNTY

Roosevelt's Objective Is Unchanged

Alberta's Credit Act Ruled Out

California Searches Debris for Its Dead

Martens Demands Shake-up

Lawyer Is Taken as Embezzler

Britain Gains Point on Tax

R. P. Scripps Newspaperman

Foe Surrender Never to Be Free

More Fires Spur Hunt

Alton Woos Montclair Club

First page in miniature of the Newark Evening News, *awarded the Francis Wayland Ayer Cup in the Eighth Exhibition of Newspaper Typography as the most outstanding newspaper for typographical excellence among the 1,478 entered in the exhibition. Cup was awarded in 1937 to Los Angeles* Times. *The cup becomes permanent possession of newspaper receiving it three times.*

Excellent Results with Poor Copy

A letter received from John Wrigley, Superintendent of the Photo-Process Engraving Company of Atlanta, Ga., who made the special plates illustrating the article, "Engraver's Method of Snapping up Gray or Muddy Newspaper Copy" in the April issue of *Printing* EQUIPMENT *Engineer*, is interesting and amplifies Mr. Godfrey's statement, as follows: "Last week we copied more than two dozen poor photographs with excellent results and obtained prints requiring very little retouching. We find increasing use for this method on poor copy. Our photographers find it best to soak the film in plain water for half a minute before development. This eliminates streaks and unevenness due to the very quick development used on this type of negative. We had a little difficulty at the beginning on enlargements, but as soon as we realized that the lens scales are calibrated for halftone work through the screen, we were able to correct this difficulty immediately. Proper application of this method will make it possible for any commercial engraver or newspaper to produce much better work with less retouching on poor copy, and I believe it will come into general use in a very short time."

Results of Ayer Award

The Francis Wayland Ayer Cup, offered annually by N. W. Ayer & Son, Inc., to the daily newspaper chosen as the most outstanding for typographical excellence, has been awarded the Newark *Evening News*, H. A. Batten, president, announced recently. The *News* was selected among 1,438 newspapers entered in the Eighth Exhibition of Newspaper Typography.

Honorable mentions were awarded in each of three circulation divisions as follows:

More than 50,000 circulation—(147 papers entered)—First, Washington *Post;* second, Los Angeles *Times;* third, New York *Times.*

From 10,000 to 50,000 circulation—(356 papers entered)—First, Rutland (Vt.) *Herald;* second, The Hartford (Conn.) *Courant;* third, Kenosha (Wis.) *Evening News.*

Less than 10,000 circulation—(935 papers entered)—First, The Lynchburg (Va.) *News;* second, Amsterdam (N. Y.) *Evening Recorder;* third, The Goshen (Ind.) *News-Democrat.*

Judges of the exhibition were Frank R. Kent, of the Baltimore *Sun;* Carl P. Rollins, printer to Yale University; and Charles L. Allen, director of the Department of Journalism at Rutgers University. They made the awards on the basis of makeup, press work and general typographical excellence.

The cup, which will become the permanent possession of the paper winning it three times, is the second to be offered since the exhibitions were begun in 1931 to encourage better newspaper typography.

ATF Introduces Bernhard Modern

In Bernhard Modern, states ATF, Lucian Bernhard has followed no particular classic pattern, but has provided an up-to-date drawing of characters rendered familiar by long, authoritative usage.

Bernhard Modern is recommended wherever a smart touch is required, while its classic letter forms provide sufficient dignity for more conservative jobs.

Bernhard Modern

Bernhard Modern

Bernhard Modern

Bernhard Modern is offered in both roman and italic in a range of 12 sizes from 8 to 72 point. The first member of a new family, it will be supplemented at some future date by an appropriate bold face and bold italic.

ATF has prepared an 8-page folder showing the new face in all its sizes and how and where printers and typographers can use Bernhard Modern most effectively. Copies may be procured by writing any ATF branch or directly to Elizabeth, N. J.

New Press at Buffalo News

Completion of a part of its modernization program took place on March 17 in the pressroom of the Buffalo *News* when Publisher Edward H. Butler pressed the button to start in motion a new eight-unit Goss High-Speep Newspaper Printing Press. The press is capable of printing 60,000 48-page papers per hour. Reels, tensions and pasters were supplied by Cline Electrical Manufacturing Company. The entire installation cost in excess of $300,000. The Buffalo Evening *News* now has four presses of 26 units, each unit capable of printing 16 pages or a total of 416 pages.

"A cruising speed of 47,500 will be maintained for the present. This may be easily stepped up a little later," it is stated in an article in the *News*.

Louis W. Woelfel, mechanical Superintendent, is in charge of the modernization of the plant. Two years ago Mr. Woelfel succeeded the late John W. Rosenbach.

It is also stated in the Buffalo *Evening News:* " . . . the casting of the metal plates will be done by vacuum-automatic casting machines . . . "

Among those who witnessed the start of the giant press when Edward H. Butler, editor and publisher of the Buffalo *Evening News*, pressed the button, were Mrs. Butler and the following: Charles C. Harless, design superintendent, and Arnold L. Inshaugh, field superintendent, Goss Printing Press Co.; Albert H. Parks, electrical engineer, Cline Electrical Manufacturing Co., Chicago;Timothy A. Ryan, vice president, and Harry Waite, representative, International Printing Ink Co., New York; Jack W. Cooper, district representative, Ideal Roller Co.; Albert Lipe, representative, Blatchford Metal Co.

Spring Conference

The spring conference of the International Trade Composition Association will be held at the Royal York hotel, Toronto on Friday and Saturday, June 3 and 4.

Intertype on Flagship

The Holland-America Line has equipped the printing department of the Nieuw Amsterdam, its new and luxurious flagship, with a Streamlined Intertype. This is the second Intertype installed by this steamship company. The first one has been in use for several years on the Statendam. Intertypes are also in use on the Normandie of the French line, the Lorraine of the French navy, and many others.

Profit with

The Model No. 11 Hammond Router has the sturdiest construction and heaviest motor (1/2 HP) of any inexpensive router. Can be equipped for straight-line routing.

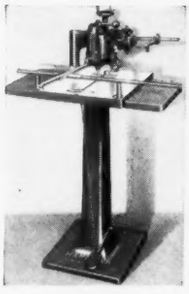
The Model R-3 Hammond Router is the combination of a sensitive radial router and accurate straight-line router, beveler, rabbeter and shell mortiser.

HAMMOND LEADERS

Composing room saws have always been too unsafe, uncertain, inaccurate and hard operating. The Glider TrimOsaws (3 Models) eliminate all this.

The Bench Ben Franklin TrimOsaw has the most value per dollar of any inexpensive saw. It has many of the Glider's exclusive features.

No. 11 Router



R-3 Router

G-2F Glider TrimOsaw

G-3 Glider

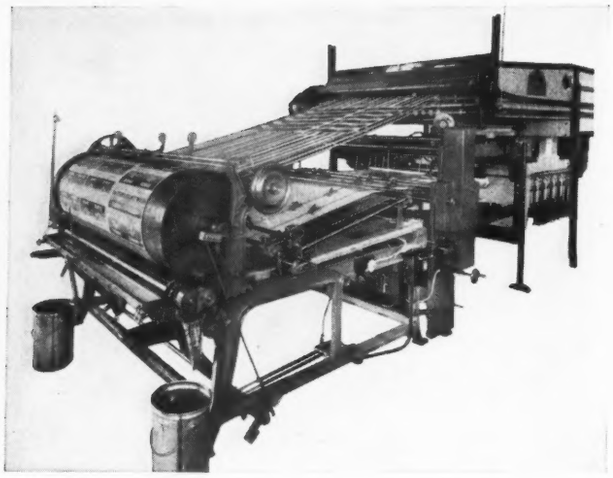
Ben Franklin

1604 Douglas Avenue

Hammond Machinery Builders INCORPORATED

KALAMAZOO, MICHIGAN, U.S.A.

1604 Douglas Avenue



Varnishing jobs go through on schedule —*make real money for you* with the

Christensen Stream Feeder

You can't afford to "bottle-neck" production with slow, costly hand feeding or obsolete automatic feeders on your varnishers. A slow-up at this point *affects your entire production schedule* and sends costs soaring.

Equip your plant with this Stream Feeder, that matches the full capacity output of your varnisher. On long runs or short jobs, its fast, smooth operation gives you record low costs—and you get more business through delivering better work, on time.

This same production efficiency is obtained on modern high-speed rotary and offset presses, or on flat-bed cylinder presses within the capacity limits of your equipment—with improved register and less "down-time."

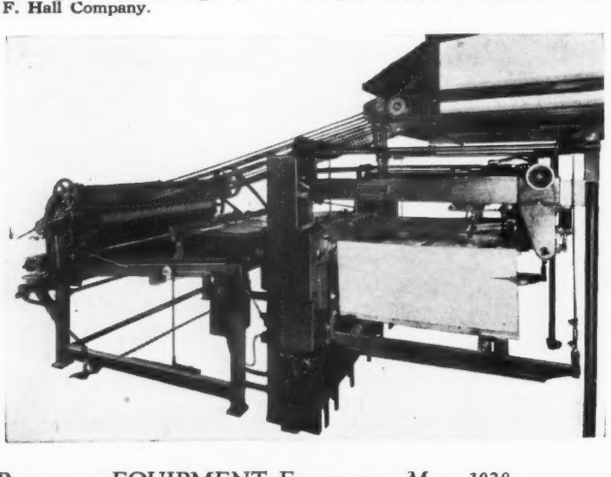
Installations on varnishers, presses—practically every leading make of sheet-fed machine—prove in dollars and cents that it pays to replace obsolete feeding methods and equipment with Christensen Stream Feeders.

Investigate what the Stream Feeder can do for you. Check the facts from recent installations. Write, today, giving make, model, and size of your present equipment.

The Christensen Machine Company

100 Fourth Street **Racine, Wisconsin**

Branch Offices and Distributors: Chicago, 608 S. Dearborn St.; New York, 461 Eighth Ave.; Los Angeles, Printers Supply Corp.; San Francisco, Norman F. Hall Company.



Patents

Recently Granted

Composing Machines:

2,103,995. METAL POT FOR SLUG CASTING MACHINES. Le Roy W. Wilson, Stamford, Conn., and Edmund M. Goodbody, Long Island, N. Y., assignors to Intertype Corporation, Brooklyn, N. Y., a corporation of New York. Application April 20, 1936, Serial No. 75,476. 1 Claim. (Cl. 22—70.)

A metal pot for slug casting machines having a metal reservoir to contain a body of molten metal, a well to receive metal from the reservoir and having means for forcing metal therefrom, a throat extending upwardly from the well to a level above that of the metal in the reservoir and to a horizontally elongated outlet of substantially the same width as the portion of the throat adjacent thereto for injecting metal discharged from the throat into a slug casting mold, a transverse chamber substantially as wide as the outlet and located between the normal level of metal in the throat and the outlet for the flow of metal therethrough, and a solid baffle extending horizontally across the chamber in parallel relation to the outlet and disposed for the flow of metal around and beyond it in at least one unbroken stream before reaching the outlet.

2,104,509. TYPE CASTING AND SETTING MACHINE. Frederic Devese, Paris, France. Application July 16, 1936, Serial No. 90,964. In France July 19, 1935. 13 Claims. (Cl. 199—74.)

1. In a machine for casting and setting movable type, a frame carrying a plurality of matrix blocks, means for automatically putting, by a rotation of the entire group of blocks, one of the other of the latter in working position opposite the mold, and means for automatically starting this group of blocks.

2,104,859. SLUG CASTING MACHINE. Frank C. Frolander, Elizabeth, N. J., assignor to Mergenthaler Linotype Company, a corporation of New York. Application April 1, 1935, Serial No. 14,047. 71 Claims. (Cl. 199—50.)

1. In a slug casting machine, the combination of a pair of line clamping jaws, one movable toward the other for quadding, mechanism to effect such quadding movement of the jaw, means to condition the mechanism for a quadding operation, and means independent of the composed line to actuate the conditioning mechanism automatically during a given casting cycle when a quadding operation is to be performed.

2,105,555. MATRIX FOR PHOTO COMPOSING MACHINES. Samu-El Ish-Shalom and Otto I. Bloom, New York, N. Y. Application June 30, 1936, Serial No. 88,08 7 Claims. (Cl. 95—85.)

1. A matrix consisting of a metal plate bearing on its longitudinal edge a character and a supplemental character part, reproducible by direct photography as type-impression for subsequent printing in multiple colors.

2,105,667. TYPESETTING DEVICE. Jay Will Lysons, New York, N. Y. Application January 15, 1937, Serial No. 120,659. 7 Claims. (Cl. 276—37.)

1. A type setting device comprising an elongated tubular barrel member, a suitably arranged longitudinal slot traversing the full length of the tubular barrel member, and a suitably arranged moving shield member for widening and narrowing the longitudinal slot.

2,105,731. COMPOSING MACHINE. Roy V. Graves and Axel J. Bohman, Minneapolis, Minn., assignors to The Graves Process, Inc., Minneapolis, Minn., a corporation of Delaware. Application January 23, 1931, Serial No. 510,644. Renewed December 1, 1937. 16 Claims. (Cl. 197—12.)

4. In a machine a type wheel provided with character units, a movable carriage for supporting material for receiving imprints of the character units, electric means for actuating the type wheel and for moving the carriage, a keyboard provided with a plurality of character keys corresponding to the character units, electric circuits connecting the character keys and the electric means, switches adapted to be closed by depression of the character keys for completing the circuits to the electric means, and electric means associated with each of the keys to maintain the switches closed for a predetermined time interval.

2,109,494. TYPE CASTING MACHINE. Chester A. Macomic, Chicago, Ill., assignor, by mesne assignments, to Machinery Patent and Finance Corporation, Chicago, Ill., a corporation of Delaware. Application November 15, 1935. Serial No. 49,979. 16 Claims. (Cl. 199—47.)

1. In a type casting machine, a matrix bed, a bridge extending across the bed, an abutment projecting upwardly from the bed beneath the bridge between which the matrix members travel, the under surface of the bridge being adjacent the upper surface of the matrix strips and adapted to guide and control them, a shaft mounted on the bridge, a fixed wedge member on the bridge extending downwardly toward the matrix bed, a movable wedge member in opposition to the fixed member and operating means controlled by the shaft for forcing the movable member toward the fixed member to exert a lateral pressure upon the matrix strips and lock them between the abutments.

Feeding, Folding, Delivery:

2,110,585. FLAT SHEET DELIVERY FOR WEB PRINTING ROTARY PRESSES. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application June 25, 1936. Serial No. 87,154. 8 Claims. (Cl. 271—76.)

1. Means for cutting sheets from a traveling web, and a flat sheet delivery comprising a rotary carrier arranged to collect a group of sheets, a sheet delivery carrier, a rotary carrier for transferring the collected groups of sheets from the sheet collecting carrier to the sheet delivery carrier, and a curved stationary sheet support along the convex side of which the sheets are drawn as they are forwarded by the sheet transfer and delivery carriers, the sheet support partially surrounding the upper side of the transfer carrier and extending between it and the sheet collecting and delivery carriers.

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2,110,586. FLAT SHEET DELIVERY FOR WEB PRINTING ROTARY PRESSES. Howard M. Barber, Pawcatuck, Conn., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application June 25, 1936. Serial No. 87,155. 8 Claims. (Cl. 271—76.)

1. Means for cutting sheets from a traveling web, and a double flat sheet delivery comprising two rotary carriers, each arranged to collect a group of sheets, two oppositely disposed sheet delivery carriers, two rotary carriers for transferring the collected groups of sheets from their respective sheet collecting carriers to their respective sheet delivery carriers, and curved stationary sheet supports along the convex sides of which the sheets are drawn as they are forwarded by the sheet transfer and delivery carriers, the sheet supports partially surrounding the upper sides of their respective transfer carriers and located between them and their sheet collecting and delivery carriers.

2,110,976. METHOD AND MEANS FOR RENEWING WEB ROLLS IN A PRINTING MACHINE. Albert J. Horton, White Plains, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application August 7, 1935. Serial No. 35,061. 16 Claims. (Cl. 242—58.)

1. In combination, a web roll having its outer web end secured to the roll at the leading edge of the web end, whereby separation of the web end from the roll requires the rupture of a portion of the web end, and means to direct the rupture in a diagonal course from the leading edge of the web end toward a side edge of the web.

4. The method of separating a web end, which is in connection with a web roll at a point on its leading edge, which consists in causing adherence of the web end to a running web, thereby tearing the web end beside the point of connection, and directing the tear angularly toward one end of the roll.

Miscellaneous:

2,104,553. MEANS FOR REGISTERING PRINTING PLATES. Leslie W. Claybourn, Milwaukee, Wis., assignor to C. B. Cottrell & Sons Company, Westerly, R. I., a corporation of Delaware. Application April 22, 1935, Serial No. 17,673. 21 Claims. (Cl. 33—184.5.)

1. In means for registering a printing plate on a printing plate supporting surface of a printing press, the combination of a cross bar, releasable attaching means for releasably attaching the respective ends of the cross bar to the frame of the printing press so that the cross bar extends cross-wise of the supporting surface, an indicator frame pivoted bodily about the axis of the cross bar so as to overhang the supporting surface bracketwise and arranged to be oscillated bodily on its pivot toward and from the supporting surface, the indicator frame provided with an indicator for registering the printing plate, and a stop at the cross bar acting at the pivotal end of the indicator frame to stop pivotal movement of the indicator frame toward the supporting surface whereby to position said indicator frame in operative position spaced substantially the thickness of the printing plate from the printing plate supporting surface and thereby placing the indicator on the indicator frame in indicating relation with the printing plate.

2,108,858. PRINTING AND RESETTING MECHANISM. Karl Imkamp, Bielefeld, Germany, assignor to Anker-Werke, A. G., Bielefeld, Germany. Application September 24, 1934. Serial No. 745,352. In Germany October 7, 1933. 17 Claims. (Cl. 235—9.)

1. In a machine, a totalizer, printing type carried by the totalizer, a zero-setting device for the totalizer, a driving mechanism for the machine, locking means for alternatively preventing operation of the zero-setting device or the driving mechanism, setting means for shifting the locking means, a support for a record sheet opposite the type, means controlled by the setting means for shifting the support relative to the type, blocking means to hold the locking means engaged with the driving mechanism, and means whereby the resetting of the totalizer releases the blocking means.

2,109,205. MACHINE FOR PRODUCING RAISED PRINTING. Ralph Woodward, Leicester, Mass. Application June 4, 1935. Serial No. 24,899. 5 Claims. (Cl. 91—59.)

1. In a device, a chamber for powder having a discharge opening therein, means for feeding a predetermined quantity of powder through the opening, means for advancing printed sheets through the device, an air supply, and means for directing air from the supply, past the discharge opening and over the printed sheets in a direction substantially parallel thereto, the air carrying the powder in suspension, and the directing means including a hood extending transversely of the sheet advancing means and having an opening in the underside thereof directly above and spaced from a portion of the advancing means extending diagonally across the sheets for uniformly distributing the powder suspended in the air over the sheets.

2,109,774. PRINTING PROCESS. Franciscus Visser't Hooft, Buffalo, N. Y., assignor to Lucidol Corporation, Buffalo, N. Y., a corporation of Delaware. No Drawing. Application October 30, 1935. Serial No. 47,508. 20 Claims. (Cl. 101—416.)

1. The process which comprises printing with an ink containing elaeostearin and causing the ink to dry quickly by contacting the ink with an auto-oxidation-polymerization catalyst in the form of a diacyl peroxide.

2,110,140. PRINTING MACHINE. Jesse D. Klopfenstein, Huntington, Ind., assignor, by direct and mesne assignments, to Process Machine Corporation, Fort Wayne, Ind., a corporation of Indiana. Application January 21, 1935. Serial No. 2,695. 10 Claims. (Cl. 101—123.)

1. A machine comprising a stencil, means to support the stencil, a conveyor having a plurality of spaced gripper-carrying members thereon each member adapted to engage a sheet of the material to be treated and carry the same beneath the stencil, means to drive the conveyor intermittently, intermittently actuated means to support the material in contact with the lower side of the stencil and having means thereon to aline the gripper bars relatively to the stencil, reciprocable means to force an imprinting substance through the stencil on to the material, the reciprocable means including a pair of squeegees and means to alternately engage the squeegees on the stencil.

2,110,212. PRINTER SLOTTER. Thomas S. Fitchett, Glenarm, Md., assignor to F. X. Hooper Company, Inc., Glenarm, Md., a corporation of Maryland. Application January 4, 1936. Serial No. 57,508. 11 Claims. (Cl. 101—247.)

10. A printer-slotter for sheet material comprising printing and slotting rollers, means to drive the rollers, a presser roller parallel to and beneath each of the rollers to hold material thereagainst, all the rollers being mounted on shafts having gears thereon, each presser roller being driven through the gears by its respective upper roller, the shafts of the presser rollers being mounted at each end in eccentrically movable bearings, and means to rotate both bearings of each shaft simultaneously, whereby each presser roller shaft may be bodily moved in a circle and always maintained parallel to its respective upper roller shaft and the distance between the presser rollers and their respective upper rollers may be varied to accommodate different thicknesses of material therebetween, means to successively feed sheets of material between the upper and lower rollers, vertical longitudinally extending side frames supporting the shafts and bearings of the rollers, the frames being longitudinally solid between the respective upper and lower rollers along the line of the passage of material therebetween, the side frames being vertically divided adjacent the printing roller to allow access to the printing roller, means to separate the divided sections and means to lock the same together.

2,110,218. OFFSET PREVENTING IN PRINTING. Virgil G. Green and Eric Gustafsson, Chicago, Ill., assignors to Binks Manufacturing Company, Chicago, Ill., a corporation of Delaware. Application November 27, 1935. Serial No. 51,742. Renewed February 2, 1938. 22 Claims. (Cl. 101—420.)

13. A method of preventing offsetting in printing, comprising the steps of so spraying an offset preventing material in liquid condition and so projecting a jet of air therewith as to produce a cloud of finely divided particles at a locus above the surface of a previously printed sheet and with a lesser areal extent than the area of the imprinted portion of said

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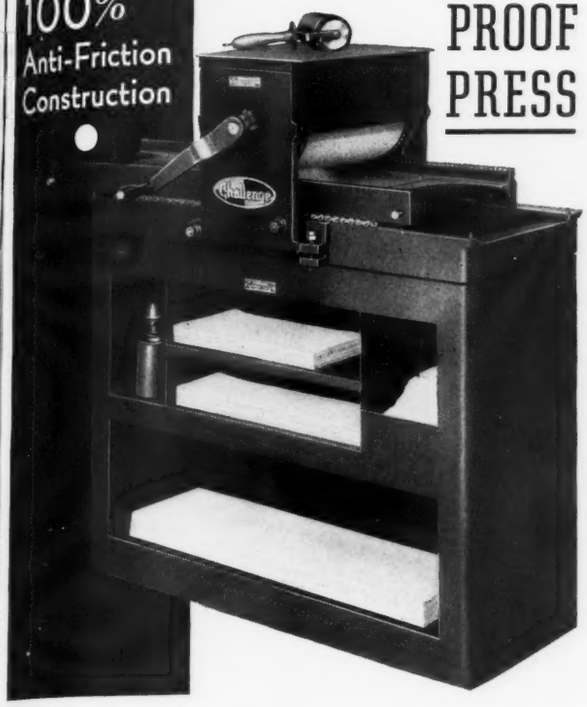

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sheet, and so moving a successively printed sheet through the locus toward the previously printed sheet as to cause the cloud to increase in area and to cause the particles to spread at least over the entire area of the imprinted surface portion of the printed sheet.

2,110,219. METHOD OF PREVENTING OFFSET IN PRINTING. Virgil G. Green and Eric Gustafsson, Chicago, Ill., assignors to Binks Manufacturing Company, Chicago, Ill., a corporation of Delaware. Application July 31, 1937. Serial No. 156,806. 16 Claims. (Cl. 101—420.)

1. A method of preventing offsetting in printing comprising the steps of creating a cloud of finely divided particles from offset eliminating material at a locus above the surface of a previously printed sheet, and so acting on the cloud as to cause it and the particles thereo. to spread over at least the whole area of the imprinted surface portion of the printed sheetf

2,110,810. PRINTER'S CLAMP. Edward A. Minton, Appleton, Wis. Application September 17, 1936. Serial No. 101,317. 1 Claim. (Cl. 29—67.)

The clamp described comprising essentially a body, spaced side by side portions carried by and extending longitudinally from the body and adapted to be fastened at their forward ends to the side gauge of a trimmer saw, one of the portions being equipped with a ratchet, a block slidable on the portions toward and from the forward ends thereof, a finger trigger pivotally connected with the block and having a toothed portion to engage the ratchet, a work engaging dog extending forwardly relatively to the block, the dog having an angularly disposed shank sleeved in the block, and operating means complementary to the block and the shank for holding the dog against casual movement with respect to the block.

2,111,115. WIRE TYING MACHINE. Harold John Gibbs, Thomas Alexander Bingham, and David William Bingham, Melbourne, Australia, assignors to Gerrard Wire Tying Machines Company Proprietary Limited, West Melbourne, Australia. Application August 11, 1936. Serial No. 95,448. In Australia August 16, 1935. 26 Claims. (Cl. 140—93.)

1. In a wire tying machine, a shaft, wire tensioning means comprising cam members capable of lengthwise movement on the shaft, means yieldingly opposing such lengthwise movements in one direction, a wire twisting device, two slides operatively associated with the respective cam members for gripping wire at opposite sides of the wire twisting device, whereby upon continuous turning of the shaft the wire is tensioned by a substantially straight line motion and for substantially equal amounts at each side of the twisting device.

Plate Making:

2,104,126. PLANOGRAPHIC PRINTING PLATE AND METHOD OF USING SAME. William T. Hagelin, Cleveland, Ohio, assignor, by mesne assignments, to Addressograph-Multigraph Corporation, Cleveland, Ohio, a corporation of Delaware. Application May 25, 1934, Serial No. 727,461. 3 Claims. (Cl. 101—401.)

1. A planographic printing plate comprising a rolled zinc foil having minute tears or pits fortuitously formed in one surface by the action of the rollers, such surface constituting the printing face of the plate and consisting of mutually isolated pits separated from each other by smooth intervening surfaces at the same general level.

2,105,973. MATRIX DRIER. Pearl Junius Hereford, Huntington, W. Va. Application July 13, 1936, Serial No. 90,434. 3 Claims. (Cl. 34—16.)

1. A device comprising an oven having a heatable bottom, a foraminous matrix support mounted slidably on the bottom, burners located beneath the bottom for heating the same, heat passages around the edges of the bottom to permit heat to rise to the topside of the foraminous support, apertures in the walls of the oven, and an arcuate heat deflector mounted in the oven in parallel relation to the foraminous support to concentrate the heat to a matrix supported on its support, the arcuate deflector being formed with a baffle at its topside to prevent circulation of the heat from one side of the oven to the other side.

2,108,822. PRINTING PLATE AND FORMATION THEREOF. Wells A. Lippincott, Chicago, Ill. Application November 11, 1935. Serial No. 49,186. 7 Claims. (Cl. 41—25.)

1. For use in multi-color printing on a printing press having cylindrical supports for the different color plates, a plurality of plates for printing different colors each comprising a flexible sheet of metal capable of withstanding edgewise compression and a layer of a thermoplastic resin, the layer being secured to one side of the sheet and having type formed therein, the sheets for the different color plates being disposed substantially equidistant from the type surfaces and operating to produce uniform distortion of the surfaces in bending of said plates to adapt them to the curvature of the supports.

2,109,206. APPARATUS FOR CASTING STEREOTYPE PLATES. George W. Bungay, Brooklyn, N. Y., assignor to Bungaytype-Delaware, Inc., New York, N. Y., a corporation of Delaware. Application June 26, 1935. Serial No. 28,439. 19 Claims. (Cl. 22—2.)

1. A machine for casting stereotype plates comprising a mold having a mold cavity adapted to receive a matrix against which the stereotype plate is to be cast, and a passage leading thereto through which molten metal is poured, means to close the passage, means to apply pressure to the molten metal to compress the same within the mold cavity and to force the metal into the impressions in the matrix, and yieldable means to distribute pressure over substantially the entire back of the cast stereotype plate to compensate for shrinkage and to hold the plate in pressure engagement with the matrix until and after solidification takes place.

2,110,154. STEREOTYPE PLATE CASTING MOLD. William F. Huck, Richmond Hill, N. Y., assignor to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application December 31, 1934. Serial No. 759,983. 6 Claims. (Cl. 22—5.)

1. A printing plate casting mechanism, including a mold having a semi-cylindrical casting chamber constructed and arranged to cast semi-cylindrical stereotype printing plates for use on printing cylinders, each plate having the outer portions of its straight axial edges removed to form reduced locking projections on the straight axial edges and forming uninterrupted continuation of its inner arcuate surface, yieldable movable members operably supported by the mold to form a part thereof, means for normally biasing the movable members for moving portions thereof into the casting chamber so that the portions form locking shoulders on the inner face of the printing plate adjacent the locking projections, the movable members being yieldably movable from the casting chamber in response to movement of the printing plate to permit the removal of the printing plate from the casting chamber, and means for moving the movable members from the casting chamber independently of the movement of the cast plate, the shoulders and locking projections arranged for cooperative engagement with locking instrumentalities to lock the printing plate in printing position on the printing cylinder.

2,110,623. MEANS AND METHOD OF PRODUCING STEREOTYPES. Robert David Gould, Detroit, Mich. Application March 2, 1936. Serial No. 66,769. 5 Claims. (Cl. 41—25.)

1. A method of making a stereotype plate, comprising casting the plate on blotting paper indicia which are eagerly absorptive, and moistening the indicia to facilitate their removal from the recesses of the plate.

2,108,799. BLANK FEEDER AND EJECTOR. William Ward Davidson, Evanston, Ill. Application September 30, 1935. Serial No. 42,876. 14 Claims. (Cl. 271—4.)

1. In a feed mechanism, for co-operation with a printing machine, a tape for moving the articles to be printed, into and out of printing position, a pulley to which one end of the tape is secured for moving the tape in one direction, a segmental gear and a co-operating pinion for intermittently rotating the pulley, and latch means for connecting the pinion to the pulley for rotating same.

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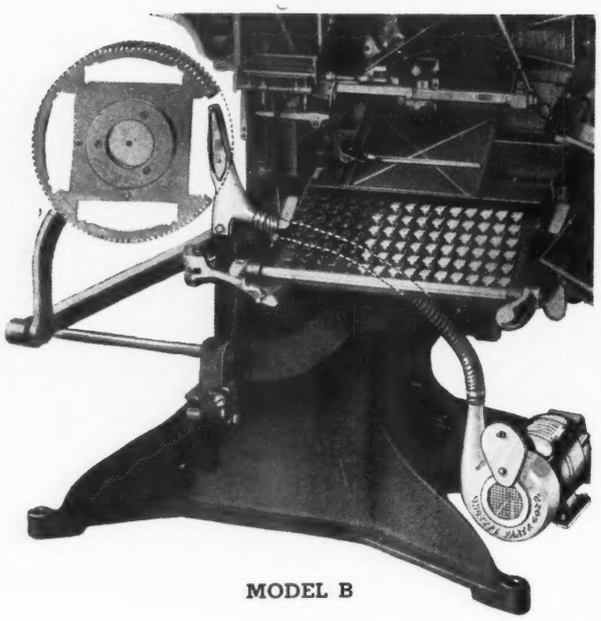

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2,102,910. FEED GAUGE FOR PRINTING PRESSES. Eugene Payne, Chattanooga, Tenn. Application December 28, 1936. Serial No. 117,731. 6 Claims. (Cl. 101—415.)

1. A device comprising a body portion, a head secured to the body portion, a plurality of tongue receiving openings in the head, a prong for securing the head and body to a draw sheet, and a tongue adjustably secured to the body portion and extendable through either of the openings for engagement with printing stock.

2,103,254. DUAL DAMPENING AND INKING MECHANISM FOR PLANOGRAPHIC AND ANALOGOUS PRESSES. John G. Goedike, San Antonio, Tex. Application February 1, 1937, Serial No. 123,458. 8 Claims. (Cl. 101—148.) (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)

1. The method of inking and dampening printing surfaces of planographic and analogous printing members, which consists in transmitting water from a source of supply to an inking mechanism, transmitting the water together with a film of ink to the printing member through the ink distributing system, whereby an ink repelling coating of water will be applied to the non-design portions of a printing surface and ink will be applied to the design portions of the surface.

2,103,617. STRETCHING BRIDGE FOR METAL SHEETS OF ROTARY PRINTING MACHINES. Erich Gericke, Berlin-Pankow, Germany, assignor to the firm Rotaprint Akt.-Ges., Berlin, Germany. Application January 12, 1937, Serial No. 120,236. In Germany January 14, 1936. 9 Claims. (Cl. 101—415.1.)

1. A device for stretching printing sheets on printing cylinders and covering the stretching gap in the cylinder, comprising in combination with a cylinder body forming a part of the periphery of the cylinder and having a stretching gap, a stretching bar fixed on the body on one side of the gap, a second stretching bar articulated on the body on the other side of the gap, and parts hingedly connected to both of the bars and at the same time bridging the gap.

2,103,812. MULTIPLE IMPRESSION PRINTING APPARATUS AND METHOD. Emil Ericksson, Chicago, Ill., assignor to Standard Process Corporation, Chicago, Ill., a corporation of Delaware. Application September 22, 1932, Serial No. 634,406. 26 Claims. (Cl. 101—152.)

1. A printing press comprising an impression means; a plurality of movable printing means spaced along the impression means; means for simultaneously moving the printing means into and out of contact with the impression means; means for independently moving any one of the printing means into and out of contact with the impression means; and a single means for increasing and decreasing the contact pressure between the impression means and the printing means.

2,104,026. ROTARY PRESS UNIT. Arthur E. Dowell, Washington, D. C., assignor to The Duplex Printing Press Company, Battle Creek, Mich., a corporation of Michigan. Application July 11, 1934, Serial No. 734,673. 7 Claims. (Cl. 101—180.)

1. A double perfecting printing unit for a multi-unit rotary printing press; the unit comprising a unit frame, upper and lower printing mechanisms each including two impression cylinders and two plate cylinders mounted in the frame, the plate cylinders being arranged below their respective impression cylinders, and accessible from the outer sides of the frame, inking devices for each plate cylinder mounted in the frame underneath such cylinder, and guides on the frame for directing a web between plate and impression cylinders in both upper and lower mechanisms.

2,104,065. MULTICOLOR PRESS ARRANGEMENT. Adolph M. Zuckerman, New York, N. Y., assignor, by mesne assignments, to R. Hoe & Co., Inc., New York, N. Y., a corporation of New York. Application July 16, 1934, Serial No. 735,488. 15 Claims. (Cl. 101—181.)

1. In a printing machine, a plurality of printing couples constructed and arranged to print successively on the same side of a web, a drive shaft common to the printing couples, a driven gear operably secured to a similar component of each printing couple, and aligned drive gears carried by the drive shaft and each drive gear meshing with the driven gear of each printing couple, the driven gears being positioned at opposed sides of the drive shaft and the drive gears positioned axially beyond the driven gears and disposed perpendicularly thereto.

2,108,984. DAMPENER FOR PRINTING PRESSES. Elmer C. Grembecki, Chicago, Ill. Application August 29, 1936. Serial No. 98,451. 15 Claims. (Cl. 101—147.)

1. Dampening mechanism for printing presses and the like comprising a housing having an opening for confrontation with a press plate cylinder, means providing a water spray in the housing, a power driven propeller supported within the housing and having a plurality of apertured arms rotatable to intercept the sprays and break up the water into fine particles, together with means for moving air past the propeller means in the housing to carry the particles through the opening on to the cylinder.

Earle Martin Passes

Earle Martin, Production Manager of the Cleveland Plain Dealer *and* News, *passed away at his home, Thursday, May 6, South Euclid after a five months' illness. Mr. Martin was widely known in connection with his editorship of*

several Scripps-Howard newspapers. For the last year and a half he had served both the Cleveland News *and* Plain Dealer *in the capacity of production manager.*

Employment-Service Department

Employers, production and mechanical executives may insert notices in this department.

Items for this department may pertain to the following subjects: "Executive Wanted," "Association or Partnership Wanted," or Position Wanted," readers referring to subjects of a personal nature such as obtaining information about addresses of executives, supplying copies of technical articles and magazines, patents for sale or requests for contacts for developing and/or financing of inventions.

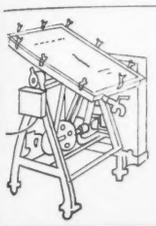
Any reasonable request from an employer or mechanical executive for the printing of a notice upon a subject other than the ones listed above will be granted.

Notices may be printed under the following regulations: First insertion (maximum six lines) is free of charge. All subsequent insertions of the same item subject to a charge of 75c per line in advance.

Address all communications with box number to *Printing* Equipment *Engineer*, 1276 West Third St., Cleveland, O.

"TALKING BOOKS"—An entirely new system of Talking Books requires a cooperative executive for purpose of preparing the necessary literature, instruments, etc. for presentation to syndicate or other financing. Knowledge of sound appliance of value. Reply Box 50.

COMPOSITOR-STONE HAND—Institution inmate requires employment Chicago area in order to regain his liberty. Non-union compositor and stone-hand; young, single, industrious, ambitious, loyal. Willing start small if opportunity advancement. Reply Box 49.



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KLEAN-O-MAT CORPORATION
30 Rockefeller Plaza New York, U. S. A.

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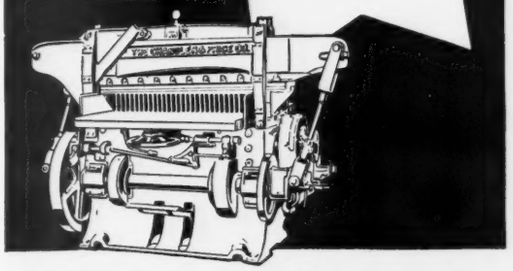
Automatic Paper Cutters



● **Many exclusive features providing greater cutting accuracy, speed and ease in operation: One-piece rigid frame; knife PULLED, not pushed, through stock; binder friction adjustment accessible at side of cutter; positive brake and clutch; back-gauge lock takes up its own wear; controls conveniently grouped at operator's hand; safety starting eliminates any chance for "repeats;" knife can be stopped and started at any point in its travel.**

Built in 39", 44" and 50" sizes; ask your C & P dealer for descriptive bulletin and specifications.

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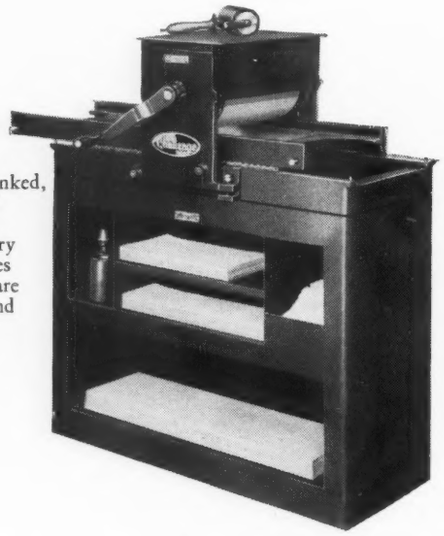
Chemco Photoproducts Co. Queen and Crescent Building, New Orleans, La.
Allan B. Croke Co., 163 Oliver Street, Boston, Mass.
G. C. Dom Supply Co., 125 East Pearl Street, Cincinnati, O.
Mid-West Photo-Engravers Supply Co., 514 North Third St., St. Louis, Mo.
E. H. Walker Supply Company, 1315 14th St., N.W., Washington, D. C.
Selby Mohr, 883 Mission Street, San Francisco, Cal.
Metzger Photo Supply Co., 1091 South Main Street, Akron, O.
C. S. Illingworth, 49 Springville Ave., Buffalo, N. Y.
Thompson-Hayward Chemical Co., 909 2nd St. So., Minneapolis, Minn.
Thompson-Hayward Chemical Co., 2228 Blake Street, Denver, Colo.

Two New Proof Presses

Two new proof presses with bed sizes 14¼ in. by 25 in. and 14¼ in. by 18 in., have been announced by The Challenge Machinery Company. These proof presses are of streamline design and are finished in standard olive green.



View of new hand-inked, hard-packing proof press announced by Challenge Machinery Company. Bed sizes of the two models are 14¼ in. by 25 in. and 14¼ in. by 18 in.

The cylinder is stationary, geared to a reciprocating bed that is mounted on Challenge anti-friction bearings to provide smooth, easy operation. The impression taken enables the proofreader to correct defects in type and plates that would otherwise be ascribed to poor proofing. The galley plate is removable from the bed, which makes it possible to take proofs from either galley or type forms.

The cylinder is equipped with a removable hard packing which can be easily replaced. Another feature of this machine is the full-size ink plate which is located above the cylinder. It also serves as the cylinder cover and is removable.

There are three shelves in the all-steel stand for various sized proof paper. One compartment for ink, oil can, etc., and another compartment for cleaning cloth.

These two proof presses are of exactly the same construction, except for the bed size. Model 1425-C requires 22½ in. by 51 in. floor space, bed extended. Model 1418-C requires 22½ in. by 38 in. floor space. Standard equipment for these models is as follows: Cylinder packing, galley plate, wrenches, ink plate and 8 in. Challenge Hand Roller.

For further information on either one of these two models, consult the manufacturer direct or address the company in care of *Printing* EQUIPMENT *Engineer*.

P-Double-E File No. 1V.

Bridge Eagles on Linotype

The eagles have come to the game of bridge, and the new fifth-suit symbols are available in various point sizes on the Linotype.

"As these new characters will be used in many forms of printing," says C. H. Griffith, Mergenthaler vice-president in charge of typographic development, "we are prepared to make them, on order, in all sizes within the range of the Linotype. Printers of bridge score cards, programs, menus, and so forth will want the eagles in various point sizes, and so will conductors of bridge columns in newspapers and other publications. The new characters, of course, align exactly with the spade, heart, diamond and club characters."

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Less trouble for the Stereotyper . . . fewer make-overs . . . due to excellent molding and scorching qualities and uniformity.
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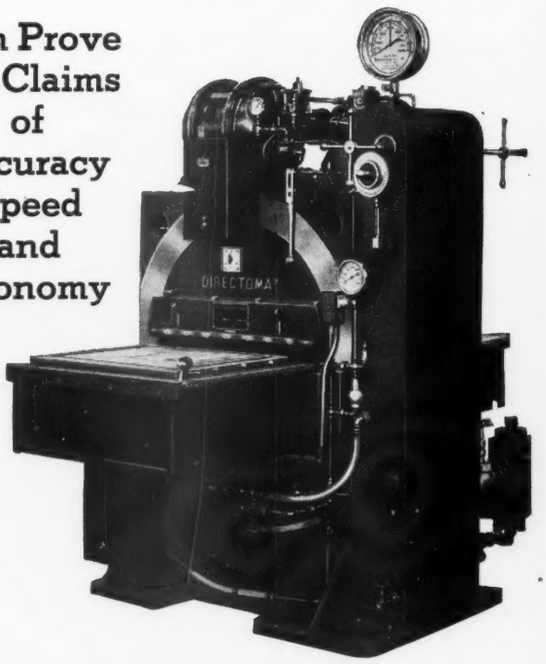
LAKE ERIE
DIRECTOMAT

Can Prove All Claims of Accuracy Speed and Economy



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The Largest Sheet on the Market

—18" x 28".
—15c per sheet.
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Increase linotype production **20%** with the ROUSE Sennett Positive Assembler.

Speed up operation by eliminating jumping mats and consequent transpositions. Set clean proofs---fast. Reduce revision time to a minimum.

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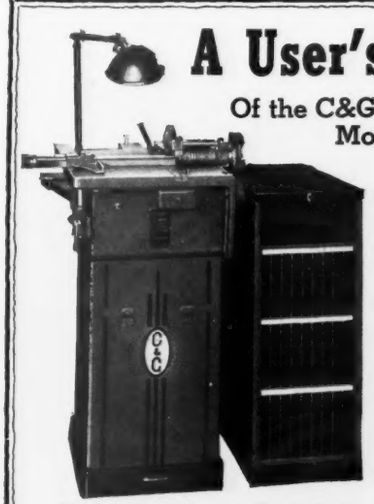
FitzPatrick Felt Mfg. Co.

1971 E. 79th St.
Cleveland, Ohio

A User's Opinion

Of the C&G No. 3-A DeLuxe Model Saw Trimmer



"Our floor man contends it is the best saw trimmer he ever used, and he is a 25 year man. It was selected over competitive makes."

Best by Test

No. 3-A Saw Trimmer—No. 22 Strip Material Cabinet

No. 20 Waste Receptacle: Sturdily built of heavy sheet steel. Handle raises to convenient height for moving. Capacity 1467 cu. in. Shipping weight 41 lbs.

No. 21 Waste Receptacle: Constructed of heavy sheet steel. Handle same as No. 20. Capacity 2000 cu. in. Shipping weight 52 lbs.

No. 22 Strip Material Cabinet: Substantially built of heavy sheet steel. Height 34 in., length 24½ in., width 13 in., net weight 105 lbs., shipping weight 130 lbs. Holds over 1200 lbs. of metal.

No. 20 Waste Receptacle

No. 21 Waste Receptacle

Literature Upon Request

Milwaukee Saw Trimmer Corp.
610-612 E. Clybourn Street
Milwaukee, Wis.

Technical Literature

Flamenol

Bulletin GEA-2733A illustrates and describes new Flamenol cable with nine colors of synthetic covering suitable for wiring press and other complicated control circuits in printing machinery.

Unit-Type Gravure Press

Illustrated folder decribes Champlain Unit-Type Gravure Press for runs of 100,000 or more for package, commercial and specialty printing.

P-Double-E File Nos. 2B13 and 5LL18

Frapomist

Folder printed in black and yellow by Frapomist Process is available. Illustrates device and presents claims for beneficial effects upon rollers and improved printing qualities.

P-Double-E File No. 5WW

Mold Disk Rebuilding

Folder discusses process for rebuilding dams aged Linotype mold disks. Also illustrate and describes magazines for Linotypes.

Taber V-5 Stiffness Gauge

The new Taber V-5 Stiffness Gauge is intended for the measurement of stiffness and resilient qualities of paper, coated fabrics, light metallic sheet and wire. Ask for Bulletin 3802.

P-Double-E File No. 5U

Monotype Giant Caster Faces

A new wall chart, approx. 21 in. wide by 40 in. deep has been prepared by the Lanston Monotype Machine Co. The chart shows one large point size of all faces which are available for casting on the Monotype Giant Caster in sizes up to and including 72 pt. caps and lowercase and 84 pt. title line caps. Charts are tinned top and bottom for convenience in hanging in the composing room. A copy will be sent in response to request made on your firm's letterhead.

Coronet Bold

Folder illustrates new matrix cutting by Ludlow Typograph Company, 48 pt. size.

P-Double-E File No. 1G5

Goodrich Printing Rubbers

An 8-page illustrated catalog listing and describing complete line of printing rubbers has just been issued by The B. F. Goodrich Company. The products listed include engraving rubber for hand-engraved plates and dies; unvulcanized rubber for molded plates and dies; unvulcanized rubber for stamps, type, band daters, sign markers, and toy sets; adhesive fabrics for mounting plates and dies to press cylinders; cements for attaching plates, dies, and stamps to metal and wood; and sponge rubber for cushioning rubber dies and stamps.

P-Double-E File No. 2F

Type E-2 High-Lift Platform Truck

Bulletin describes and illustrates E-2 tiering, telescoping, 4000 lb. capacity platform truck. Two-wheel drive, truck equipped with 500% overload Elwell-Parker motor.

Futura

Past Present Futura—Folder shows different versions of Futura by Bauer in one and two-line settings.

P-Double-E File No. 1E

Aids to Selection

Analytical folder gives data on Linotype Legibility Group of Matrix Faces such as Ionic, Excelsior, Opticon, Paragon and Textype so that comparative information may be on the fitting of each. Four divisions are presented as follows: Alphabet lengths; approx. word count in 12-em 21½ in. column of the various sizes; percentage of comparative word-counts and the faces which are duplexed with the Legibility Group Faces.

P-Double-E File No. 1G5

Complete Typographic Service

Folder issued by M & L Typesetting Co., enumerates different services afforded by company on 24-hour basis.

Stereo Mat Booklet

"How To Get the Most From Your Dry Mat and Stereo Expenditures—Booklet consisting of 32 pages, describes stereotype process, equipment used in process, use for reproduction in book and general printing. Kinds of mats supplied by Certified Dry Mat Corporation described.

Gloss Offset Process Colors

Sinclair and Valentine Company has prepared a one-leaf folder printed with Super Gloss Offset Process Colors. Separate blocks show each color with color and number identification.

P-Double-E File No. 2D12.

The New "MMM"

FIVE FEATURE

Form-O-Scorch

offers

Direct Surface Heat
Selective Temperatures
Thermostat Control
Adjustable Cover Tension
Automatic Timer

Write for folder

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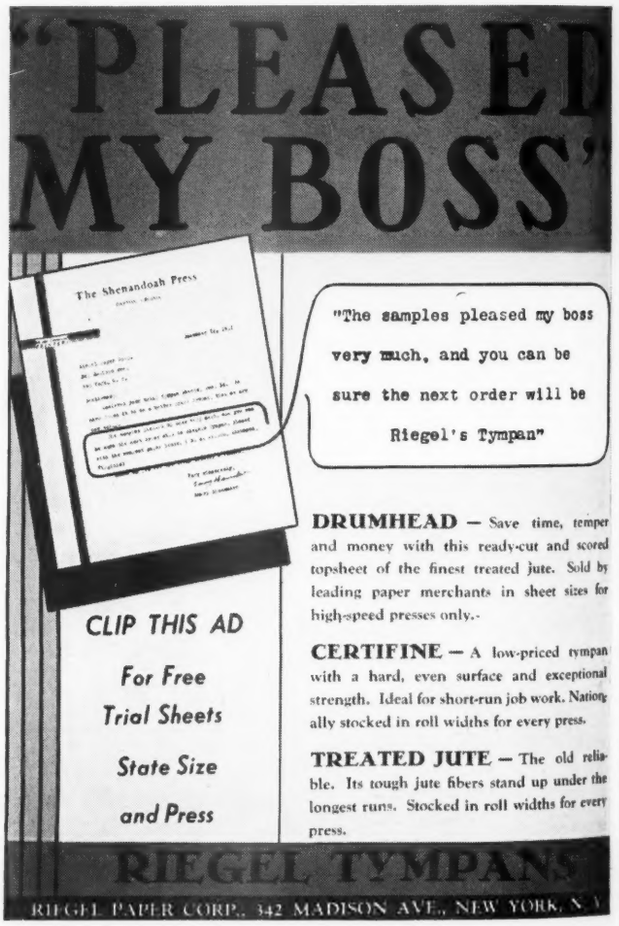
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"The samples pleased my boss very much, and you can be sure the next order will be Riegel's Tympan"
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No wage cuts, Kelly pledges

Ex-convict set free in labor slaying

Nab 3 in love lane killing of policeman

Thrown out, bride charges

Girl, 6, dead in fire; save 9

Snow, colder

Chicago Times Restyled

First of the Chicago newspapers to be "streamlined," the *Sunday* and *Daily Times* is also the first American tabloid-sized newspaper to depend upon lower-case headings throughout, in lines set flush to the left, in flat-serif typefaces. The headline style of the *Times* has been carried past the use of upper and lower case to the exclusive use of lower case, except for the initial letter in the first word of the headline and the capitalization of proper names.

The new typographic style of the *Times* appeared first in the Sunday issue of March 20, and was thenceforth continued in the daily issues.

The most important feature in the new typographic style is the dependence placed on the superior legibility of lower case as compared with caps, according to Douglas C. McMurtrie, director of typography, Ludlow Typograph Company, who collaborated with Louis Ruppel, *Times* managing editor, in making the change: "Newspapers in the tabloid size, identified by principal heads set in all caps of 'railroad gothics,' offer special opportunity to give readers something quite different, better looking, and at the same time immensely more legible and comfortable to read."

Related stories and features have been brought together wherever feasible, and departmentalized, with small "label" headings in the upper left hand corner of pages, reading "crime," "politics," and so forth, thus classifying the story immediately for the reader. Foreign news, together with interpretive background and summaries, carried on the second page of each issue, is another *Times* feature.

Multiple column head stories, of which there are many, have large headings, many heads being set in 48, 60 and 72-point, either roman or italic. Pages are interesting and different, with the change of pace provided by a variety of weight, size, and width in roman and italic of the same typeface family.

Uncounted heads with the lines of uneven length increase the liklihood of effective and intelligent headlines, and give much greater freedom to head writers.

Page make-up is unusual. Each page is dominated by one or more illustrated lead stories, with large easy-to-read, easy-to-grasp heads. Sometimes only a few words suffice to tell the story, and then large type with terse wordings is brought into play, with telling effect.

With momentous changes taking place in the styling of newspapers and all printed matter, publishers are watching with great interest the development of new typographic styles such as that represented in the *Times*.

TWO IMPORTANT ITEMS!

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"FLECTO"—Our newest and best gummed packing felt, in .025 to .050 gauges; in sheets or strips,—as desired. Samples on request.

"A Complete Line of Stereotype Supplies"

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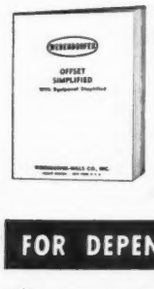
WILLIAM REID & CO., 2271 Clybourn Ave., Chicago, Ill.



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Also used on printing frames, gluing machines, ruling, folding, labelling and other machines, for cooling linotype molds, agitating electrotype solutions, blowing dirt out of machinery and type cases.

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New York: 220 East 42nd Street
San Francisco, 1st Nat'l Bank Bldg.

Books Received

(Continued from Page 26)

PAR For Printers is divided into eleven major sections, each section indicated by a celluloid tab for easy reference. Coverage of production operations are: Foundry Lockup, Press Lockup, Press Register; Definite Quality Classifications; Presswork with Its Many Variations for Specific Models of Platen, High-Speed Jobber and Single-Color; Two-Color and Perfector Cylinder Presses; Stock Thickness Tables; Cutting of Various Types and All Sizes and Weights of Stock from 1 to 128 Out; Binding (including specific machines), and Miscellaneous Schedules.

It is our opinion that no conscientious production executive will be opposed to production standards provided those standards are based on broad experience and actual fact. He will gladly try to shoot for par and constantly check back to see that he is conforming to those standards, provided management seeks his cooperation and encourages him to do so.

The information given in *PAR For Printers* relative to production operations is expressed in time units. The book is to be used (besides estimating and better management) for many production operations. It will serve as the basis for predetermining the time necessary for various operations; to develop plant standards; to prove and defend requests to management regarding replacement and additions to equipment; to check estimated time; to provide employees with reasons for time provisions made for jobs; to assign work to proper machines; to determine how many ways a job can be produced and find the most economical way; to obtain quality work without sacrificing production.

Publishers state one user stepped up press production from 1800 impressions per hour to 2046 impressions per hour without effort as a result of consulting *PAR For Printers*.

PAR For Printers is leased by the year by its publishers, Production Standards Corporation, 430 South Green St., Chicago, Ill. Subscribers receive revision sheets and a monthly bulletin service. Inquiries should be addressed directly to the publishers.

Vibration Control

Korfund Company, Inc., is making available an illustrated paper by S. Rosenweig, covering the subject of vibration, both as to theory and practice, defining each element in its relation to the problem as a whole. Text explains practical solutions for various vibration loss conditions. Numerous isolating materials and devices are analyzed from standpoint of relative advantages and application.

P-Double-E File No. 8K

Graphic Routes to Greater Profits

IT IS the business of production executives and maintenance engineers to know whether production is flowing properly and whether plant equipment is operating at expected output. Similarly, it is necessary to check into machine operation, current consumption, motor behavior and other things to determine that things are as they should be from economy standpoint. The use of graphic instruments is well known in the printing industry but in many cases executives and engineers are not aware of the data which may be obtained through a full understanding of their use.

The book *Graphic Routes To Greater Profits*, by John W. Esterline, tells simply how graphic meters may be used to make continuous measurements of machine operations or current consumption and to plot a record of these measurements on a moving chart, corresponding to time, in the form of a graph. The record may be obtained for any given length of time. In this book, in order to get the idea across to the readers, there are more than 250 case studies, each covering a distinct problem, giving the procedure followed, the graphic charts obtained and the solution reached. The use of graphic meters in the printing industry is concretely illustrated by several case studies.

Some questions pertinent to printing plant operation are answered in the book. Is your plant illumination being used only during production hours? Are your lighting bills excessive because of wasteful use during non-productive time? Are your motors of proper rating and capacity for the machines to which they are attached? The location of unknown current losses in motors due to grounds may be causing your plant considerable expense. A case history shows how a 3 h.p. motor wasted $4000 worth of electricity in 7 years. One particular case history shows how production was equalized through the use of graphic meters on several printing presses used for catalog work. Shortly after the presses were put in operation the record charts from these recorders revealed: Press speed was not uniform, but showed a tendency to creep upward after a press was started; on each press there was a considerable amount of lost time due to the press being stopped, and the operators on some of the presses showed more lost press time than others. After the conditions

for *Commercial and Newspaper Mechanical and Production Executives* . . . . . .

FOURTH ANNUAL EDITION of the ADVERTISING AND PUBLISHING

Production Yearbook

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You will find, also, information on processes of reproduction, methods of color photography, printing presses, proofreading, mailing, and all other production phases.

130 articles and charts devoted to all branches of the graphic arts . . . reproductions of 1030 type faces, italic and bold, including new creations (a most comprehensive collection of type faces under one cover) . . . Munder Paper Chart classifying 518 paper brands . . . 60 "Printing Types of Yesteryear" conveniently listed . . . 20 typewriter type faces . . . 25 novelty, die-cut and trick folding forms . . . over 100 tables on copy-fitting, paper sizes and weights, shipping and postal information, photo-engraving, electrotyping, binding, etc.

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were discovered through the use of graphic meters, it did not take long to find the remedy with the cooperation of the press crews who themselves were not aware of the lost production. "Charting the Operation of a Newspaper Plant" is a very interesting case study. It shows the use of graphic instruments in obtaining complete records of press operation for various editions.

The book will suggest to the reader many ways to use graphic meters which will give information needed to determine if your operation is as it should be and whether your current consumption is normal.

Graphic Routes To Greater Profits, by *John W. Esterline*. Published by the Esterline-Angus Co., Indianapolis, Ind. Size 8½ in. by 11 in., 320 pages, 450 illustrations. Bound in tooled brown Fabrikoid. Price, $3 per copy postpaid.

Photoelements and Their Application

PROGRESSIVE production and mechanical executives have been intrigued with the possibilities of the "electric eye" (photoelement or photoelectric cell) in relation to the printing industry. There are no less than 16 or 18 practical applications including photoelectric illumination meters, exposure meters for photographic purposes, wirephoto, mechanical composition, control of stereotype metal temperature, measurement or color, fanfold perforator and others. While written from a general scientific and industrial viewpoint, those executives interested in the "electric eye" will find the book *Photoelements and Their Application*, by Dr. Bruno Lange an exceedlingly understandable and clear outline of the basic electric phenomena and the historical development of photoelements and their physical properties.

The publisher's statement explains that Dr. Lange is the inventor of one of the most widely utilized types of photoelectric equipment and has devoted a lifetime of study to the subject. . . . The photoelement, in the opinon of many competent authorities, is the most useful and versatile type of "electric eye."

In the preface to Part II of the book, Dr. Lange writes: "For not everyone who uses a tool needs to know its development, but every one must know as exactly as possible just what can be done with the tool. Accordingly, I have taken pains chiefly to describe the many sided uses of the photoelements."

Photoelements and Their Applications, by *Dr. Bruno Lange;* translated by Ancel St. John, Ph.D., New York. Published by Reinhold Publishing Corporation, 330 West Forty-Second St., New York, N. Y. Cloth bound, size 6 in. by 9¼ in., 304 pages, liberally illustrated. Price, $5.50 per copy. Order direct from publisher.

New Ludlow Script

Coronet Bold, a new script typeface is announced by the Ludlow Typograph Company as available in matrix form, in sizes from 18

pt. to 72 pt. The 36 pt. is shown in the specimen line. This new typeface is for display lines in advertising composition and commercial printing and is bold enough to print in color, if desired. It is a bolder version of Ludlow Coronet, recently produced. As with other Ludlow script and italic typefaces, Coronet Bold is cast from slanting matrices to permit close fitting. Coronet Bold is the fifth script brought out by the Ludlow organization to meet the current demand for script typefaces, the earlier ones being Mandate, Mayfair Cursive, Hauser Script, and Coronet. Specimen sheets showing all sizes can be obtained by writing the Ludlow Typograph Company.

Results of Frapomist Test In Magazine Plant Pressroom

A test was made recently over a one-week period in the pressroom of a nationally-known printing establishment in the middle west. The object of the test was to determine the effects to be secured by using the Frapomist device. The test was conducted on four presses while printing a nationally-known magazine. A one-week test was also conducted on the same presses without the use of Frapomist device.

The comparative results of the test are as follows:

	Impressions	*Rollers*	*Ink*
With Spray	710,000	18	1.23
Without Spray	644,000	33	1.29
Av. Impressions per Roller with Spray	39,444		
Av. Impressions per Roller without Spray (Gain in Rollers 17)	19,515		
Ink used per M with Spray			1.23
Ink used per M without Spray (Gain in Ink 42.6 lbs.)			1.29
Av. Impressions per Hr. with Spray	1,450		
Av. Impressions per Hr. without Spray. (Gain in Imp. 19 per hr. 1.3%)	1,431		

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Technical Information and Literature

FOR PRODUCTION AND MECHANICAL EXECUTIVES ONLY

For Your Convenience—Circle the numbers on the convenient postage-paid return card, supply your name, title and company address and mail—we do the rest. Manufacturer or supplier will send you information or literature about equipment or supplies advertised in this issue. This card saves you time and postage—Keep Informed.

COMPOSING ROOM

1 PROOF PRESS—New Challenge proof press is precision-built to production . . . press standards . . . operates like cylinder press . . . assures rigid impression without excessive pressure or damage to type. P-Double-E File No. 1V1.

2 COMPOSING MACHINE—Streamlined Intertypes—"with eight magazines, new six-mold disk, automatic quadder, new display mats and other features will set more type when copy is mixed and display complicated." P-Double-E File No. 1G.

3 MOLD COOLER—"typesetting machine production suffers from inadequate mold cooling . . . This condition can be obviated with our model B Mold Cooler." A circular describing it is available on request. See page 42. P-Double-E File No. 1G.

4 COMPOSING MACHINES—The Mergenthaler Linotype Company features recent improvements in their Master Models. "Automatic centering and quadding." Company will send further information and literature. P-Double-E File No. 1G.

5 SAW TRIMMER—See page 45 for user's opinion of the C & G Saw Trimmer and illustration. Also pictured and described are material cabinet and waste receptacles. Literature on request. P-Double-E File No. 1Z4.

6 PRECISION PROOF PRESS—"Impression on the No. 1 Vandercook"—see inside back cover—"is the same as on expensive photoengravers' presses. Its low cost makes it a practical press to hold for special proving or testing." P-Double-E File No. 1V1.

7 COMPOSING MACHINES—See pages 30 and 31 for eight good reasons, given by the Lanston Monotype Machine Co., "you can profitably operate a monotype typesetting machine." P-Double-E File No. 1G.

8 MAGAZINES FOR LINOTYPES—Improved with top plate of duralumin, bottom plates of brass. Manufacturer declares, "they have all the desired features; ruggedness, accuracy, light weight." Literature will be sent to you. P-Double-E File No. 1G8.

9 COMPOSING MACHINES—See page 5 for illustration showing the new typographic display style of the Chicago Times. "It would profit many others to brighten and modernize the appearance of their columns."—Ludlow. P-Double-E File No. 1G.

10 MATRIX CONTRAST SERVICE—"has saved nearly two galleys of corrections every day . . . in a twenty-machine composing room . . . It will save you one-third of all your corrections." Booklet mailed on request. P-Double-E File No. 1G7.

11 CUT MOUNTING CEMENT—In their advertisement on page 37 the E. A. Booth Roller Co. list four economies which Zink Cut Cement affords users. P-Double-E File Nos. 1A, 2G1.

12 LINOTYPE ASSEMBLER—H. B. Rouse & Co. state that "you can increase linotype production 20% with Sennett Positive Assemblers . . . Eliminate jumping mats and consequent transpositions . . . Set clean proofs—fast."

13 SAWS—Glider Trim-O-Saw—See page 35—"eliminate unsafe, uncertain, inaccurate and hard operating." P-Double-E File No. 1Z4.

PRESSROOM

14 PRINTED SAMPLES showing the work being done today on Fortune Magazine with Eagle Printing Inks will be sent to you on request. Send now. Use the return card. P-Double-E File No. 3W6.

15 ROLLERS—"Goodrich Rollers were specified 100% for the Hoe Press recently installed by the Allentown Morning Call and Chronicle." For photos of press and plant see page 8. P-Double-E File No. 5NN.

16 FEEDERS—"Stream Feeder installations on varnishers and presses . . . prove in dollars and cents that it pays to replace obsolete feeding methods and equipment with Christensen Stream Feeders." Page 36. P-Double-E File No. 5Q.

17 NEWSPAPER PRESSES—See page 9 for "5 opportunities to cut the cost of production and to improve printing quality." Seven illustrations of Hoe's modern newspaper production equipment. P-Double-E File No. 5LL25.

18 ROLLERS—Page 6 features use of Goodyear Rollers in the new 4-unit press installed by Bay City Times. "Use Rollers not affected by weather changes and that require minimum adjustment." P-Double-E File No. 5NN.

19 SAMPLE GLOSS INK PRINTING—A beautiful print lithographed in four Supergloss Offset Colors will be sent to you on request by the Sinclair & Valentine Ink Co. Use the return card. P-Double-E File Nos. 5W8, 2D12.

Check off the literature or information you want on reverse side. Postpaid. No obligation.

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First Class Permit No. 2285, Sec. 510 P. L. & R. Cleveland, Ohio

Printing EQUIPMENT Engineer
1276 W. 3rd Street
Cleveland, Ohio

20 OFFSET PRESSES—See page 11 for photograph of the Jersey City Printing Co. pressroom, showing the battery of Harris Offset Presses in use there. Complete description sent on request. P-Double-E File Nos. 5LL26, 2D24.

21 BEARINGS—"Timken Roller Bearings do more than merely 'anti-frictionize' when they are applied to printing presses. They contribute an assurance of dependable, extremely accurate, economical performance." P-Double-E File No. 5C.

22 PRESS BLANKETS—"Do ghosts from yesterday's paper haunt your halftone work today? Vulcan Blankets with patented oil-proof surface and built-in resilience, eliminate ghosting." P-Double-E File No. 5L.

23 TYMPAN PAPER—"Trial sheets of Riegel tympan pleased the Shenandoah Press. Will send you free trial sheets. State size of press." See page 46. Use the return card. P-Double-E File No. 5L3.

24 PRESS BLANKETS—"Fitz Livecork Press Blankets," states manufacturers, "will produce more good impressions without make ready and without taking a permanent set . . . are unusually low in first cost." P-Double-E File No. 5L.

25 FIVE COLOR ROTARY PRESS is pictured on page 25 by C. B. Cottrell & Sons. They suggest that you "standardize on Cottrell equipment for modern economical, profitable magazine printing."

STEREOTYPE DEPARTMENT

26 DRY MATS—"Flex Dry Mats are particularly good for reproducing pictures, small type and heavy solids . . . Less trouble for the Stereotyper . . . Samples on request." P-Double-E File No. 2G18.1.

27 FORMER—The Stahl Junior Former "makes possible better mats, better plates and naturally better printing . . . Complete control of vacuum, heat and shrinkage." Information sent on request. P-Double-E File No. 2G12.

28 DRY MATS—The Wood Flong Corporation feature their dry mats as "really holding middletone detail." They add "they cast clean with brilliant highlights and solid blacks as well." P-Double-E File No. 2G18.1.

29 AUTO PLATE—"Any daily newspaper can now afford the speed and economy of mechanized rather than manual foundry operation—better stereotyping and better press work." See features and price page 29.—Wood Newspaper. P-Double-E File No. 2G7.

30 STEREOTYPE FELT—"Superior Glutex is soft and pliable and porus. Each gauge a different color. So pick your gauges by color and reduce backing." P-Double-E File No. 2G3.

31 MATRIX PRESS—See the Lake Erie Directomat on page 44. Manufacturers claim that it "can prove all claims of accuracy, speed and economy. Demonstrations invited." Further information mailed. P-Double-E File No. 2G10.

32 DRY MATS—"Burgess Chrome Mats with fine smooth face and back—mould easily . . . plates cast have that fine printing face which produces best results." Will send samples on request. P-Double-E File No. 2G18.1.

33 ROUTERS—Hammond Model No. 11 sturdily constructed with heavy motor, yet inexpensive. Model R-3 combination radial and straight-line router, beveler, rabbeter and shell mortiser. See page 35. P-Double-E File No. 2G31.

34 DRY MATS—"With Certified Mats your first casts will go right to the press room, easing the strain and postponing expensive re-equipment." Will send further information and samples. P-Double-E File No. 2G18.1.

35 MATRIX SCORCHING MACHINE—the Form-O-Scorch—see page 46. Folder mailed to you. P-Double-E File No. 2G12.

36 PLATEMAKING MACHINERY—"Hoe's precision plate-making machinery improves presswork quality." Page 9. P-Double-E File No. 2G7.

MISCELLANEOUS

37 BEARINGS—S.K.F. Industries feature the use of S.K.F. Spherical Roller Bearings in Hoe Super-Offset Presses. "The bearings make possible the high efficiency of modern fast speed presses." P-Double-E File No. 5C.

38 ZINC—"With Backote Sheets you can eliminate the fuss and mess of asphalting and the danger from fire and fumes . . . Efficient and economical." Atlantic Zinc will send full details. P-Double-E File No. 2E12.3.

39 METAL QUALITY CONTROL—The Imperial Type Metal Company will send full details on their Plus Plan—"intended to guarantee sharper, solid casts, less dross and lower fuel costs." P-Double-E File No. 2G20.

40 PAPER CUTTERS—See page 43 and send for additional information on the features of the C & P Automatic Paper Cutter which "provides greater cutting accuracy, and enable fast and easy operation."

41 MOTORS—"Kimble motors for every need." The Kimble Electric Company has devoted years of concentrated and faithful effort to improve their motors for the Graphic Arts field."

42 ZINC—"Edes photo-engraving zinc saves 'remakes' . . . It has been the standard for more than 80 years." The nearest representative is listed on page 43. Ask for further information. P-Double-E File No. 2E12.3.

This card must be filled out completely in order to secure the literature or information you request. Please circle only bulletins you particularly want.

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21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40
41 42

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FIRM NAME.....

NO. 1 VANDERCOOK LOW COST PRECISION PROOF PRESS *with* GRIPPERS

Though low in price the No. 1 Vandercook will print perfectly, a halftone 15"x17¼". It can be used for test proving plates or for making reproduction proofs.

Impression on the No. 1 Vandercook is the same as on expensive photo-engravers' presses. Its low cost makes it a practical press to hold for special proving or testing.

Features of the NEW No. 1 Vandercook:

1. Full precision ball bearing construction makes rigid impression setting possible and insures easy operation.
2. Cylinder is set down on bearers with a pressure of 3000 pounds.
3. Extra heavy bed and cylinder are constructed for lasting accuracy and rigidity.
4. Double Automatic Grippers. Proofs of highest quality can be taken only on proof presses equipped with grippers.
5. Heavy steel cabinet has adjustable feet for leveling. Bottom storage shelf has hinged door.
6. Heavy construction throughout. Net weight of press 300 pounds. Net weight of cabinet 112 pounds.
7. Cylinder gears are completely guarded. Operator cannot possibly get caught in them.
8. Will print forms up to 15"x17¼" or take a 12"x18" C. & P. Gordon chase.
9. Packing is readily changed. Two reel rods are convenient for securing tympan.
10. STEEL gears and racks are precision cut, insuring long life and permanent accuracy.

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Form size 15"x17¼"
Bed size 16"x21"

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Canada: SEARS LIMITED, Toronto, Montreal, Winnipeg, Vancouver

"THERE'S A LOT IN THAT STEPPING AHEAD IDEA"

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A.N.P.A. MECHANICAL CONFERENCE

TORONTO, CANADA — JUNE 1938